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Reference

FM 55-51

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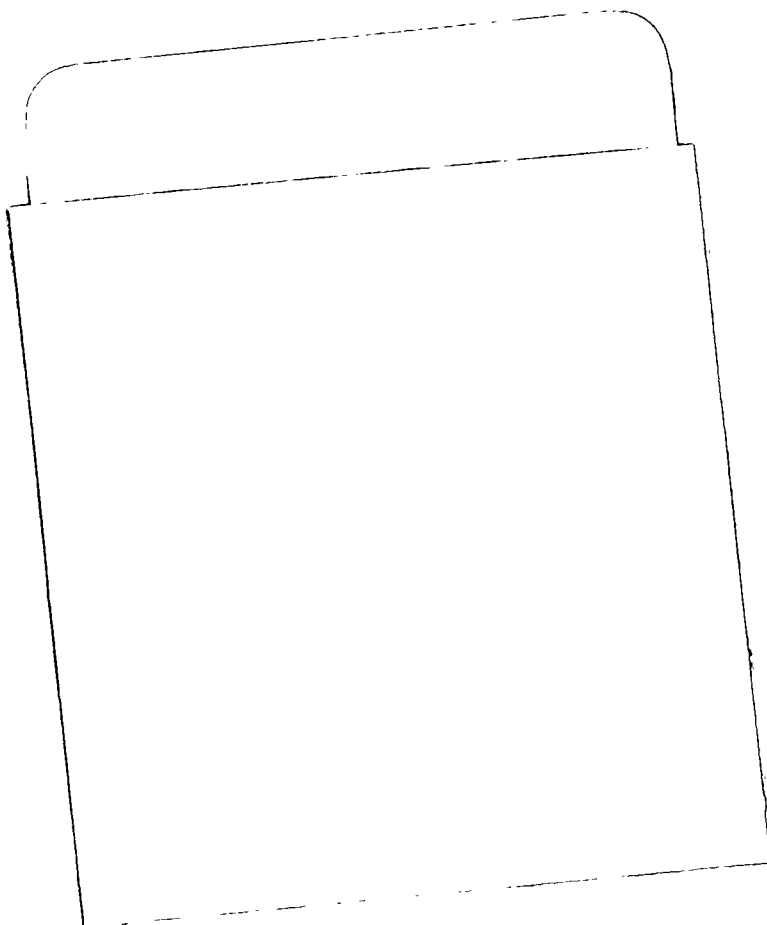
FIELD MANUAL

ARMY WATER TRANSPORT UNITS

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HEADQUARTERS, DEPARTMENT OF THE ARMY

AUGUST 1972



FOREWORD

This manual is published as a training, planning, and operational guide for unit commanders, staff officers, key noncommissioned officers, and other personnel concerned with Army water transport units of the water terminal family as a part of the transportation service currently operating in the field.

This manual covers the organization, mission, functions, and capabilities of each Army water transport unit. It contains current unit designations, organization, and terminology, and the characteristics of watercraft authorized in the units. The manual also contains material covering duties of personnel, personnel management and administration, maintenance, unit supply, communication, unit readiness, unit movement planning guidance, and water safety. Detailed procedures in each specific mission and nonmission area covered, in addition to the basic doctrine needed for field understanding.



FIELD MANUAL
No. 55-51

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 17 August 1972

ARMY WATER TRANSPORT UNITS

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CHAPTER 1

INTRODUCTION

1-1. Purpose and Scope

a. This manual is a guide for use by personnel assigned to the following water transport units:

- (1) Transportation Medium Boat Company (TOE 55-128).
- (2) Transportation Heavy Boat Company (TOE 55-129).
- (3) Transportation Light Amphibian Company (TOE 55-138).
- (4) Transportation Medium Amphibian Company (TOE 55-139).
- (5) Transportation Watercraft Teams (TOE 55-530).

b. The manual is also intended to provide guidance to other commanders, staff officers, and key enlisted personnel concerned with the planning, employment, administration, and operation of the above units.

c. The scope of the manual covers the various functions performed within the water transport units; the duties of key personnel at unit level; the relationship between the water transport units, their maintenance support elements, and the headquarters units to which the water transport units are attached for operational control; and the techniques and procedures applicable to the administration and operation of water transport units. The manual, designed basically as a unit how-to publication, should be used in conjunction with FM 29-39, FM 55-50, and FM 55-50-1 (Test).

d. This manual is applicable without modification to general, limited, and cold war.

1-2. Recommended Changes

Users of this publication are encouraged to submit recommended changes and comments to improve the manual. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons will be provided for each comment to insure understanding and complete evaluation. Comments should be pre-

pared using DA Form 2028 (Recommended Changes to Publications) and forwarded direct to the Commanding Officer, US Army Combat Developments Command Transportation Agency, Fort Eustis, Virginia 23604.

1-3. International Standardization Agreements

This manual is in consonance with certain international standardization agreements which are identified by type and agreement identification number (for example, STANAG 2079) at the beginning of each appropriate chapter in the manual.

a. DA Pam 310-35, Index of International Standardization Agreements, lists and cross-references all standardization agreements, both of a materiel and a nonmateriel nature, binding upon the United States. The several types of nonmateriel agreements applicable to military operations which may affect water transport operations and the treaty organization blocs to which such agreements relate are as follows:

(1) *STANAG (STANdardization AGreement)*: Applicable to the nations of the North Atlantic Treaty Organization (NATO).

(2) *CENTO STANAG (STANardization AGreement)*: Applicable to nations of the Central Treaty Organization (CENTO).

(3) *SEASTAG (South East Asia STandardization AGreement)*: Applicable to nations of the Southeast Asia Treaty Organization (SEATO).

b. United States military operations are governed by these various agreements when US forces are employed within the geographical areas over which treaty organizations exercise jurisdiction; thus, while operating in a European country which is a member of NATO, US forces comply with the provisions of applicable STANAG's (a(1) above).

c. In a number of instances the provisions of certain agreements have been accepted as doctrine by the United States and incorporated into appropriate

training and field manuals. A prime example of this is the use of the metric system to indicate distances. This accepted and published doctrine then becomes applicable to Armywide operations.

d. Although standardization agreements do not apply to military operations in the continental United States (CONUS), those which may concern a unit—in this case, those with a water transport impact—must be considered in the training and operational phases to permit military personnel to become acquainted with their provisions. This is particularly true for units or groups of personnel earmarked for oversea assignment.

e. To minimize operational differences in the various types of standardization agreements of the several treaty organizations, it is practice for one organization to accept and publish under its auspices an agreement that has been ratified and published by another treaty organization. For instance, all or any part of a STANAG may be adopted by the SEATO organization and be incorporated into and published as a SEASTAG. When this occurs, the same identifying number is used wherever feasible. (See DA Pam 310-35 for an index of international standardization agreements.)

f. Standardization agreements which are applicable to this manual are as follows:

<i>Title</i>	<i>NATO STANAG</i>	<i>CENTO STANAG</i>	<i>SEATO SEASTAG</i>
Rear Area Security and Rear Area Damage Control ----	2079	2079	2079
Destruction of Military Technical Equipment -----	2113	----	2113

1-4. Tables of Organization and Equipment (TOE)

TOE's of the 55-series govern the organization, mission, personnel, and equipment authorizations of transportation service units, of which water transport units are a part. Current TOE applicable to the units discussed herein should be used in conjunction with this manual.

a. *TOE Identification.* In this text, TOE's are identified by basic number only (for example, TOE 55-128); where appropriate, letter-suffixed tables apply (for example, TOE 55-128G).

b. *Organizational Levels.* TOE's for water transport units provide for full strength units (level 1) and reduced strength units (levels 2 and 3). This assures that only the minimum essential personnel and equipment are authorized consistent with the mission and the required capability of the unit. Only full strength units are considered in discus-

sions in this manual. Reduced strength levels 2 and 3 provide for personnel reductions of approximately 10 and 20 percent, respectively; equipment authorizations and unit capabilities are reduced accordingly. Reduced strengths, authorized in CONUS by army commanders and in oversea theaters by the major commander (theater and theater army) concerned, may be prescribed—

(1) To meet a reduced manning level.

(2) When a unit is not expected to operate at its full capability for an extended period.

(3) Under any unusual operating circumstances.

c. Type B Units.

(1) Whereas the levels 1, 2, and 3 columns of a TOE give the authorized strength levels, the type B column of a TOE adapts the full strength level to reduced requirements for US military personnel. Most water transport units are adaptable as type B units and they consist of the minimum number of US personnel necessary for command, supervision, administration, technical assistance, and specialized maintenance. (See the specific TOE.) Vacancies existing in the type B column indicate those positions which can be filled by non-US personnel. The number of such personnel must be determined by the major commander to which the unit is assigned and will depend on the capacity of available personnel to produce, the number of shifts, and other local conditions.

(2) Interpreters and translators required when organized under the type B column will be provided from appropriate teams available to the theater commander.

(3) The TOE military personnel authorizations for type B units may be changed by modification TOE (MTOE) as required by local area conditions of employment to enable the unit to effectively accomplish its authorized mission.

(4) Employment of non-US personnel in type B units will be in conformity with theater or theater army directives and current security regulations (FM 27-10; DA Pam 690-80).

d. *Cadre.* The cadre level of a TOE provides a nucleus of key personnel required to establish a base for activation of another unit.

(1) The cadre column of the 55-series TOE designates those key personnel required to be available in a unit and, when required, to be provided by that unit to organize and activate a water transport unit of the same type as the parent unit. The cadre provides the knowledge and know-how required to train and mold a group of fillers or replacements into an efficient company team capable of operating as a

unit and performing its assigned mission.

(2) A look at the duty assignments designated as cadre reveals that—to name a few—such key positions as first sergeant, mess steward, platoon sergeant, and section chief are included. This requires that personnel in key positions have understudies so that in the event a unit is called on to provide a cadre it can either provide capable and trained cadre personnel who can step into these key positions and properly carry out their duties in a newly activated unit, or it can replace any of its own key personnel who are selected as cadre and can continue to function properly and efficiently.

(3) The providing of a cadre by a unit offers a promotional opportunity to qualified and eligible personnel in that unit, either through manning of key spaces in a cadre by lower grade personnel from the parent unit or in the filling of vacancies created in the parent unit through loss of key personnel selected as cadre. This matter must be carefully considered by the commander of the unit providing the cadre.

e. TOE Unit Categories. All water transport units are category III units, which means they are organized under TOE's whose mission includes service and operations in support of a combat area and the operating agencies of a communications zone (COMMZ). The water transport units are normally found in the COMMZ in a theater of operations.

1-5. Role of Water Transport Units

The Army water transport units described in this manual perform a combat service support role in an overseas theater of operations. This combat service support role is accomplished by providing and operating lighterage used in transporting personnel and cargo from shipside to a fixed terminal; to or across a beach in a logistics over-the-shore (LOTS), amphibious, or riverine operation; or from shore to shore. This role may also include providing special watercraft equipment such as floating cranes, tugs, and barges to assist in the loading and unloading of heavy lift cargo and in the berthing and unberthing of ships.

1-6. Command Relationship

a. Army water transport units in an overseas theater are members of the family of water terminal units. The terminal family is a part of the overall transportation organization in the theater of operations. To understand their relationship in this organization, a general look must be taken into the overall theater transport organization from the highest echelon down to the water transport units.

b. A theater of operations is normally divided into a combat zone and a COMMZ. We are primarily concerned with the COMMZ. The command element in the COMMZ is the theater army support command (TASCOM), which provides an integrated support system for one or more field armies. The operational area of TASCOM extends from the beaches and ocean terminals of the theater to the rear boundary of the field army, thus providing the necessary link between the combat force and its source of manpower and materiel replenishment in CONUS. The TASCOM has five mission commands operating on a perpendicular axis from the water's edge forward to the field army area.

c. The transportation command (TOE 55-2), one of these five functional commands of TASCOM and the major Army transportation headquarters in a theater, has the necessary movement control, motor transport, terminal service, water transport, rail, and aviation units to provide an integrated transportation system capable of supporting the TASCOM mission.

d. The transportation terminal brigade (TOE 55-111) is the highest terminal headquarters in TASCOM. A terminal headquarters of this size is normally activated when the size and complexity of the theater warrant two or more transportation terminal groups.

e. The terminal group (TOE 55-112) is normally the terminal headquarters that is responsible for all theater terminal operations. The terminal group, however, when subordinate to the terminal brigade, because of the size and complexity of the operations, is responsible for operating assigned terminals. The terminal group is capable of commanding and supervising the operations of up to six terminal battalions.

f. The headquarters and headquarters company, transportation terminal battalion (TOE 55-116) provides the basic operating headquarters for theater terminal operations and is normally the command element for each water terminal. As such, it has the mission to provide direct command, administration, supervision, and operational control of Army water transport units employed in the operation of water terminals. Army water transport units employed in an amphibious operation as a part of a shore party are normally under the command of a transportation terminal battalion. In amphibious operations the terminal battalion comes under the command of an engineer amphibious brigade or group. For details on Army terminal units see FM 55-61.

1-7. Task Elements

The transportation terminal service company is the basic operating unit at a water terminal, whether it be an established port or a LOTS site. The activity of all other units assigned or attached to a transportation terminal battalion evolve around this unit (or units). Army water transport units are assigned to a terminal battalion based on the number of terminal service companies operating and the type and amount of cargo to be handled. The water transport units provide watercraft for transport and floating utility service in harbor areas and inland waterways, and along coastlines. They also provide ship-to-shore lighterage service in beach operations. Appendix B provides prefix designators for the individual types of watercraft. The water transport units employ three primary types of watercraft: landing craft, amphibians, and harbor craft. Detailed descriptions and photographs of Army watercraft are found in TM 55-500.

a. Landing craft are designed primarily to transport wheeled and tracked vehicles between ship and shore in LOTS operations; however, they may be used in a utility role in harbor areas, inland waterways, and coastal operations or in support of riverine operations. They are capable of beaching, loading, and unloading vehicles through their bow ramps and retracting from beaches under their own power. The three types of landing craft currently employed are—

(1) The LCM-8 (landing craft, mechanized, Mark VIII), the task vessel of the transportation medium boat company (TOE 55-128).

(2) The LCU (landing craft, utility, Navy Design 1466), the task vessel of the transportation heavy boat company (TOE 55-129).

(3) The BDL (beach discharge lighter), the task vessel of the transportation watercraft team FM (TOE 55-530).

b. Amphibians are wheeled floating craft designed to transport cargo from ships lying offshore to discharge areas beyond the beach in LOTS operations. The three types of amphibians currently employed are—

(1) The LARC-5 (lighter, amphibious, resupply, cargo, 5-ton), a task amphibian of the transportation light amphibian company (TOE 55-138).

(2) The LARC-15 (lighter, amphibious, resupply cargo, 15-ton), a task amphibian of the transportation medium amphibian company (TOE 55-139).

(3) The LARC-60 (lighter, amphibious, resupply, cargo, 60-ton), a task amphibian of the transportation watercraft team FN.

c. The harbor craft fleet includes a variety of vessels which are employed in harbor areas, on inland waterways, along coastlines, and as interisland carriers. They basically consist of harbor tugs, passenger and cargo boats, picket boats, barges, floating cranes, and cargo vessels that are found along with the single craft crews in TOE 55-530, Transportation Watercraft Teams. They are discussed in chapter 4.

CHAPTER 2

TRANSPORTATION AMPHIBIAN UNITS

Section I. TRANSPORTATION LIGHT AMPHIBIAN COMPANY (TOE 55-138)

2-1. Mission

The mission of the light amphibian company is to provide lighterage for the movement of general cargo between ships at anchorage and inland transfer and/or segregation areas in logistics over-the-shore (LOTS) operations and in support of amphibious operations. The task lighter is a LARC-5 (lighter, amphibious, resupply, cargo, 5-ton).

2-2. Assignment

The company is assigned to a theater army support command. Its normal attachment is to a transportation terminal battalion (TOE 55-116); however, it may also be attached to a transportation terminal group (TOE 55-112), a transportation terminal brigade (TOE 55-111), or it may operate separately under the supervision of an appropriate headquarters.

2-3. Capabilities

a. At TOE level 1 (full strength), the light amphibian company can transport daily 1,000 short tons (STON) of general cargo providing the following conditions are met:

(1) The unit operates around the clock (double shift operation).

(2) Twenty-five LARC's are available to each shift.

(3) Each LARC carries a minimum of 2.5 STON of cargo per trip.

(4) Each LARC averages 16 trips per day.

b. Although the unit has a capability to transport 1,000 STON's daily, 720 STON's should be used for worldwide planning purposes since productivity is predicated on turnaround time and this must be computed for each different operation. The elements that affect turnaround time include—

(1) Average speed of the lighters on water and on land.

(2) The distance from ship to shore and from shore to transfer point.

(3) Loading and unloading time.

(4) Predictable and unpredictable delays in each operational area such as those caused by bad weather, enemy action, and breakdown of cargo handling gear. (See appendix C for wind and sea states affecting operations.)

c. With 34 task lighters available, each carrying 5 STON's, the company has a maximum one-time lift capability of 170 STON's of general cargo.

d. When organized under TOE levels 2 and 3, the operational capabilities are reduced to approximately 90 percent for level 2 and 80 percent for level 3.

e. The capabilities of a type B light amphibian company are the same as a level 1 (full strength) company.

(1) The vacancies existing in a type B unit when compared to a level 1 unit are those positions which can be filled by non-United States personnel. The number of non-United States personnel is determined by the major commander to which the unit is assigned and depends on the skill level and productivity of local personnel, the number of shifts, and other local existing conditions.

(2) Interpreters and translators required when organized as a type B unit are provided from appropriate teams available to the theater commander.

(3) Authorization of United States military personnel in a type B unit may be modified by troop basis proponents as required by local area conditions of employment to enable the unit to effectively accomplish its mission.

f. This unit depends on the personnel service company, TOE 12-67, for personnel administration and on appropriate teams from the finance service

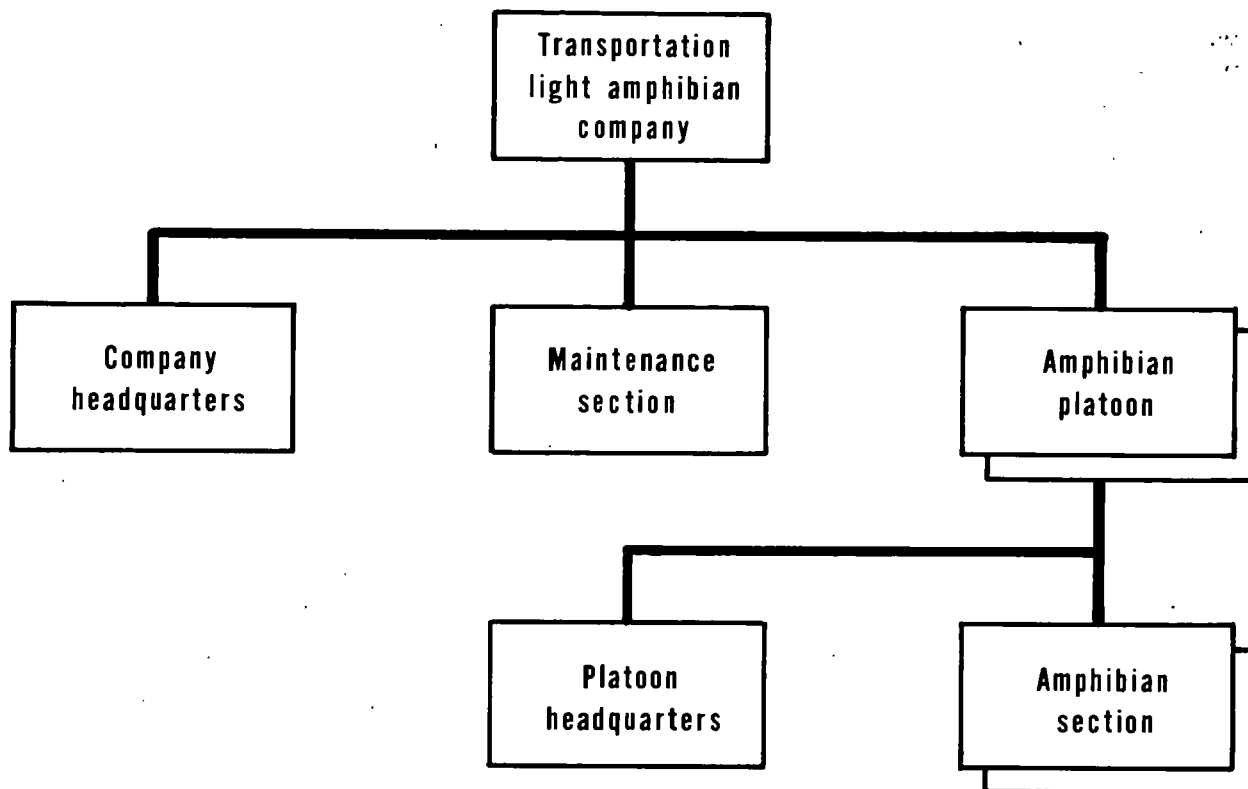


Figure 2-1. Transportation light amphibian company (TOE 55-138).

organization, TOE 14-500, for finance service support.

g. The company is capable of performing organizational maintenance on all organic equipment.

h. Individuals of this organization can engage in effective, coordinated defense of the unit's area or installation.

2-4. Organization

The company (fig 2-1) is composed of a company headquarters, a maintenance section, and two amphibian platoons, each with a platoon headquarters and two amphibian sections.

a. Company Headquarters. In addition to the normal command, administration, mess, and supply functions, the company headquarters provides the personnel to operate the lighter control center—the hub of the company's operation. The company commander is the director of operations and the special amphibian advisor to the command to which the unit is attached. The lighter control center is operated by a lighter control center officer, two lighter control center sergeants, and two dispatchers. The lighter control center personnel also operate the unit's net control station, receiving reports and transmitting instructions to the amphibian platoons on a 24-hour basis.

b. Maintenance Section. The maintenance section is responsible for performing organizational maintenance on all organic equipment as indicated in the maintenance allocation charts published in the technical manuals for each item of equipment. This includes keeping the appropriate maintenance records as prescribed by TM 38-750 and maintaining the prescribed load of repair parts on hand or on order. A maintenance technician (warrant officer) is in charge of the section and he is assisted by a maintenance supervisor and an assistant maintenance supervisor. Personnel assigned to maintain the equipment and prepare records are five senior amphibian enginemen, five enginemen, four assistant enginemen, an amphibian operator and crewman (to operate the one LARC-5 assigned to the maintenance section), a prescribed load list (PLL) clerk, an engineer equipment mechanic, an equipment reports clerk, a multipurpose power generator operator/mechanic, a hull repairman, a petroleum storage specialist, a radio mechanic, a rigger, a shop clerk, a special purpose repair parts specialist, a wheeled vehicle mechanic, a wrecker operator, a light vehicle driver, and two petroleum supply handlers. For direct support maintenance, see paragraph 7-3.

c. Amphibian Platoons. The two amphibian platoons of the company each contain a platoon head-

quarters and two amphibian sections. Each of the two platoons is equipped with 17 task LARC-5's, with eight of the LARC's assigned to each section and one LARC in the platoon headquarters. Each platoon headquarters has a platoon leader, a platoon sergeant, an assistant platoon sergeant, and a crew for two-shift operation of the headquarters LARC-5. The assignment of one LARC-5 in each platoon headquarters is an organizational expedient to permit a balanced strength of LARC's in each amphibian section. These lighters are employed as task craft to enable the unit to accomplish its mission and should not be used for administrative or command purposes. A four-man crew is assigned to each lighter—an operator and a crewman for each shift. Section leaders and assistant section leaders are provided for two-shift control of each section.

2-5. Task Equipment

a. General Description. The company is equipped with a total of 35 LARC-5's. The LARC-5 has an aluminum hull and a single screw (propeller); it is four-wheeled, self-propelled, and capable of carrying 5 STON's of general cargo from ships anchored offshore across the beach to discharge areas short distances inland. It is powered by a 300-horsepower diesel engine. Its normal crew complement is two men—an operator and a crewman.

b. Characteristics.

- (1) Height overall—10 feet 2 inches reducible to 7 feet 11 inches.
- (2) Width overall—10 feet.
- (3) Length overall—35 feet.

(4) Net weight of amphibian empty—20,960 pounds.

(5) Maximum land speed—30 miles per hour.

(6) Maximum water speed—10 miles per hour (8.7 knots).

(7) Cargo compartment size—8.69 feet wide by 15.94 feet long.

c. Land Operation. On land, the LARC-5 moves on four large rigidly supported wheels equipped with low pressure tires, permitting travel over soft surfaces with a reduced possibility for bogging down. When operated at road speeds or when crossing rough surfaces at relatively high speeds, the lighter has a tendency to bounce and sway. This can be corrected by reducing the speed of the lighter. The LARC-5 can ascend or descend grades of 60 percent and operate on side slopes of 25 percent provided operation is on a solid surface. Although the LARC-5 can travel over most types of terrain, care must be used when operating in rough terrain so that the aluminum hull of the lighter is not punctured or torn open. Caution must also be used when traveling on tidal mudflats, as the amphibian may become mired in the mud. The LARC-5 normally should not be operated more than 6 miles behind the beach.

d. Water Operation. In water operation, the LARC-5 is propelled by a four-blade propeller. The LARC-5 is equipped with a propeller shroud which funnels the flow of water to and from the propeller, increasing maneuverability and propeller efficiency. Care must be taken to avoid puncturing or tearing the aluminum hull on underwater obstacles.

Section II. TRANSPORTATION MEDIUM AMPHIBIAN COMPANY (TOE 55-139)

2-6. Mission

The mission of the medium amphibian company is to provide lighterage for the movement of general cargo between ships at anchorage and inland transfer and/or segregation areas in logistics over-the-shore (LOTS) operations and in support of amphibious operations. The task lighter is a LARC-15 (lighter, amphibious, resupply, cargo, 15-ton).

2-7. Assignment

This unit has the same assignment as the light amphibian company (para 2-2).

2-8. Capabilities

a. At TOE level 1 (full strength), the medium amphibian company can transport daily 1,080 short tons (STON's) of general cargo providing the following conditions are met:

(1) The unit operates around the clock (double shift operation).

(2) Nineteen LARC's are available to each shift.

(3) Each LARC carries approximately 10.2 STON's of cargo per trip.

(4) Each LARC averages five to six trips per day.

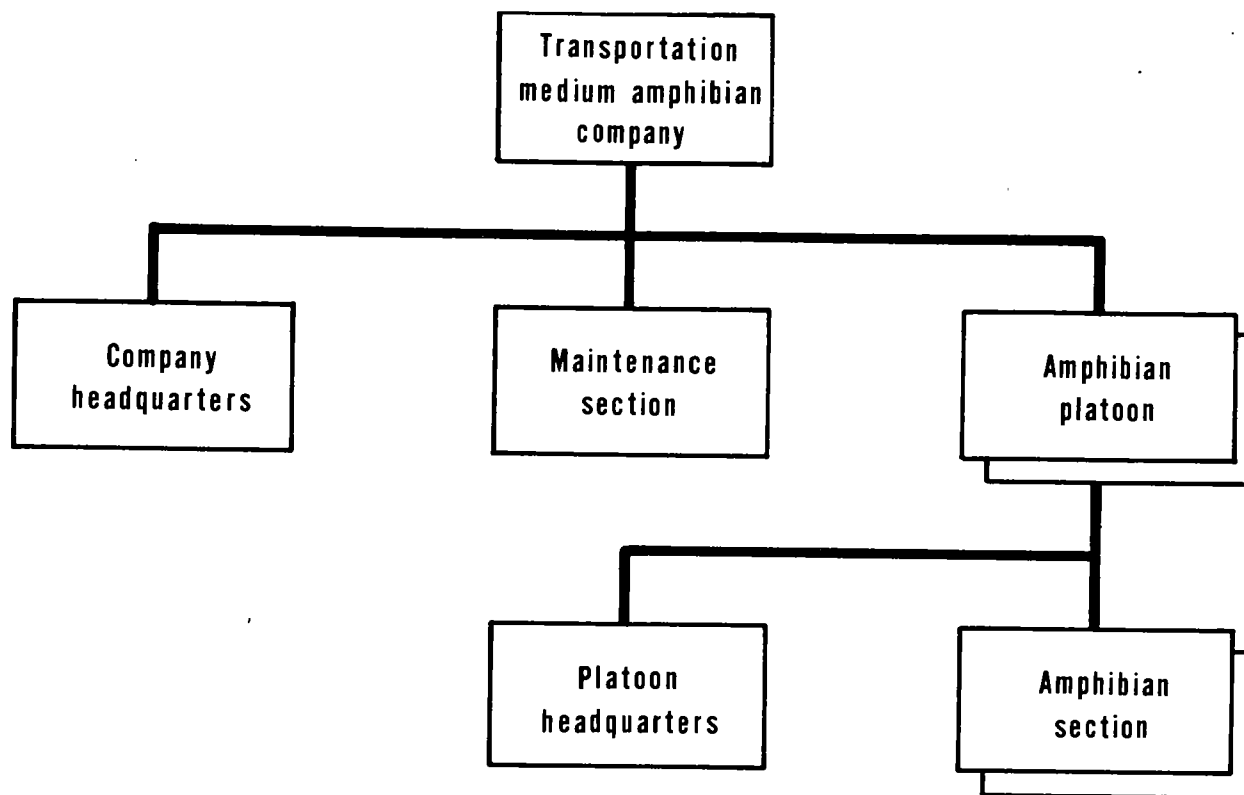


Figure 2-2. Transportation medium amphibian company (TOE 55-139).

b. The productivity of this unit is also influenced by the turnaround time (para 2-3b).

c. Using 24 task lighters with each lighter carrying 15 STON's, the company has a maximum one-time lift capability of 360 STON's of general cargo.

d. When organized under TOE levels 2 and 3, the operational capabilities are reduced to approximately 900 and 725 STON's, respectively.

e. The capabilities of a type B medium amphibian company are the same as a level 1 (full strength) company.

(1) The vacancies existing in a type B unit when compared to a level 1 unit are those positions which can be filled by non-United States personnel. The number of non-United States personnel is determined by the major commander to which the unit is assigned and depends on the skill level and productivity of local personnel, the number of shifts, and other local existing conditions.

(2) Interpreters and translators required when organized as a type B unit are provided from appropriate teams available to the theater commander.

(3) Authorization of United States military personnel in a type B unit may be modified by troop basis proponents as required by local area conditions of employment to enable the unit to effectively accomplish its mission.

f. This unit depends on the personnel service company, TOE 12-67, for personnel administration and on appropriate teams from the finance service organization, TOE 14-500, for finance service support.

g. The company is capable of performing organizational maintenance on all organic equipment.

h. Individuals of this organization can engage in effective, coordinated defense of the unit's area or installation.

2-9. Organization

The organizational structure of the medium amphibian company (fig 2-2) is essentially the same as that described in paragraph 2-4 for the light amphibian company, except that the medium amphibian platoon headquarters has no assigned lighters, the four amphibian sections have six LARC-15's each, and the maintenance section has one LARC-15 for a unit total of 25 task LARC-15's.

2-10. Task Equipment

a. *General Description.* The LARC-15 is an aluminum hulled amphibian powered with two 300-horsepower diesel engines. It has a capability of carrying 15 STON's of general cargo or small vehicles across the beach from ships anchored offshore

to discharge areas short distances inland. It is normally operated by a two-man crew. Its cargo may be loaded and unloaded by using cranes, ship's gear, conveyor belts, or forklift trucks. Vehicles may also be driven into or out of the LARC's cargo well through a bow ramp.

b. Characteristics.

(1) Height overall—15 feet 8 inches reducible for shipping to 13 feet 2 inches.

(2) Width overall—14 feet 6 inches.

(3) Length overall—45 feet.

(4) Net weight of amphibian with normal crew and fuel—45,640 pounds.

(5) Maximum land speed—29.5 miles per hour.

(6) Maximum water speed—9.5 miles per hour (8.4 knots).

(7) Cargo compartment size—13.5 feet wide by 23.9 feet long.

c. Land Operation. On land, the LARC-15 moves on four large rigidly supported wheels equipped with low pressure tires which permit travel over soft

surfaces such as mud or sand with a reduced possibility of bogging down. It is equipped with power steering and selective two- or four-wheel drive to facilitate ease of operation on land. The size of the vehicle makes it necessary that the lighter have two sets of controls and operator seats; one control and seat so the operator can operate bow first in the water, and the second set of controls and seat for operating stern first on land. The LARC-15 normally should not be operated more than 3 miles inland.

d. Water Operation. In water operation, the LARC-15 is operated from the aft end of the operator's cab facing the bow. Power from the engines is applied through a marine gear to drive the four-blade propeller located in the stern. During marine operation, steering is accomplished through both the vehicle's wheels and the stern rudder. With its maximum load of 15 STON's, the LARC-15 has a free-board (area from the waterline to the deck) of 1 foot 3 inches. Care must be taken to avoid puncturing or tearing the aluminum hull on underwater obstacles.

Section III. TEAM FN, LIGHTER, AMPHIBIAN, LARC-60, OPERATION AND MAINTENANCE TEAM

2-11. Mission

The primary mission of the team FN, lighter, amphibious, resupply, cargo, 60-ton (LARC-60), is to transport heavy, outsize cargo, containers, MILVAN's, or bulky equipment in logistics over-the-shore or amphibious operations. The personnel and equipment for this team are authorized by TOE 55-530.

2-12. Assignment

The team may be attached to a composite unit organized under TOE 55-500 or to a transportation terminal battalion.

2-13. Capabilities

a. The team FN, operating double shifts, can transport 450 short tons (STON's) of heavy, outsize cargo or bulky equipment daily. This is predicated on three of the team's four LARC-60's making five trips a day carrying 30 STON's a trip. As with the LARC-5 and LARC-15, the turnaround time is an influencing factor in production.

b. Each LARC-60 has a one-time lift capability of 60 tons or 125 combat-equipped personnel.

c. The team is capable of performing its own amphibian maintenance including direct and general support.

2-14. Organization

a. Although the heavy amphibian team has no internal organizational breakout, it is organized so that it may operate double shifts. The team commander and assistant team commander, both lieutenants, directly supervise each team's shift operations. Each officer also commands a two-lighter section when required to operate on separate but adjacent beaches. The team commander also serves as the LARC-60 technical advisor for the organization to which the team is attached. The detachment sergeant, the senior NCO in the team, has an amphibian operator MOS and supervises the team operations.

b. The team must depend on the unit to which assigned for mess, personnel administration, and logistic support, but it does have a first cook, a detachment clerk, a supply sergeant, a repair parts specialist, and two light truck drivers so they can respond to limited mission relocation in an effective, reliable, and responsive manner.

c. To operate the four amphibians and perform organizational maintenance, the team has eight crew chiefs, eight amphibian crewmen, eight assistant crewmen, four senior amphibian enginemen, and four assistant amphibian enginemen. Each LARC-60 is authorized a crew of eight men—four on each shift. A crew chief is responsible for each

amphibian and serves as operator on each shift. He is assisted by an engineman, an amphibian crewman, and an assistant crewman. The crew both operates the craft and performs organizational maintenance on the LARC-60's. The crew assists the team maintenance section in performing direct and general support maintenance.

d. To perform the direct support and general support maintenance on the amphibians, the team has the following personnel with the appropriate skills to perform on-site direct support and general support maintenance: marine engineer technician (warrant officer), amphibian maintenance supervisor, two machinists, two senior amphibian engine repairmen, two amphibian engine repairmen, a hull repairman, a marine welder, and an equipment reports clerk.

2-15. Task Equipment

a. *General Description.* The LARC-60 is a steel-hulled, diesel-powered amphibian designed to transport 60 STON's of vehicles and other heavy, outsize items between ship and shore. It can also carry 125 combat-equipped troops. Cargo may be loaded and unloaded by using cranes, ship's gear, or fork-lift trucks. Vehicles may also be driven into or out of the cargo well through the bow ramp.

b. *Characteristics.*

(1) Height overall—19 feet 5 inches, reducible for shipping to 15 feet 4 inches.

(2) Width overall—26 feet 6 inches.

(3) Length overall—62 feet 6 inches.

(4) Net weight empty—197,000 pounds.

(5) Maximum land speed—15.2 miles per hour.

(6) Maximum water speed—7.5 miles per hour (6.5 knots).

(7) Cargo compartment size—width between battens, 13 feet 6 inches; width without battens, 14 feet; length, 40.7 feet.

c. *Land Operation.* In land operation, each of the craft's four wheels is driven by a 165-horsepower diesel engine. In spite of its size and weight, it can move easily over soft sand because its large tires—9 feet in diameter—reduce ground pressure sufficiently to enable the vehicle to retain its mobility over extremely soft surfaces. The LARC-60 also has certain limitations that serve to restrict its land employment. It cannot operate satisfactorily in deep mud, and it requires a path 30 feet wide for operation on land. Beach gradient is also an important consideration in planning LARC-60 utilization. Due to its extreme size and weight, the LARC-60 has difficulty in climbing steep underwater and above water beach slopes. The LARC-60 normally should not be operated more than $\frac{1}{2}$ mile inland.

d. *Water Operation.* When waterborne, the LARC-60 is propelled by two propellers, each driven by two engines.

CHAPTER 3

TRANSPORTATION LANDING CRAFT UNITS

Section I. TRANSPORTATION MEDIUM BOAT COMPANY (TOE 55-128)

3-1. Mission

The mission of the transportation medium boat company is to provide and operate landing craft for the movement of personnel and cargo in Army water terminal operations and Army waterborne tactical operations, and to augment, when required, naval craft in joint amphibious operations. The task lighter is a landing craft, mechanized, Mark VIII (LCM-8).

3-2. Assignment

The company is assigned to a theater army support command or other appropriate command in a theater of operations. It is normally attached to a transportation terminal battalion, TOE 55-116, or to a transportation terminal group, TOE 55-112. It may be attached in support of a joint amphibious operation or it may operate separately under an appropriate commander.

3-3. Capabilities

a. At TOE level 1 (full strength), the medium boat company can transport daily 720 short tons (STON's) of general cargo providing the following conditions exist:

(1) The unit operates around the clock (double shift operation).

(2) Twelve landing craft (75 percent of its task boats) are available to each shift.

(3) Each landing craft carries an average of 30 STON's, making two trips daily.

b. The productivity of this unit is affected by turnaround time (para 2-3b).

c. With 16 task landing craft available, carrying 60 STON's each or 200 troops in each load, the company has a maximum one-time lift capability of 960 STON's of general cargo or 3,200 combat equipped troops.

d. When organized under TOE levels 2 and 3, the operational capabilities are reduced to approximately 630 and 540 STON's, respectively.

e. The capabilities of a type B medium boat company are the same as a level 1 (full strength) company.

(1) The vacancies existing in a type B unit when compared to a level 1 unit are those positions which can be filled by non-United States personnel. The number of non-United States personnel is determined by the major commander to which the unit is assigned and depends on the skill level and productivity of local personnel, the number of shifts, and other local existing conditions.

(2) Interpreters and translators required when organized as a type B unit are provided from appropriate teams available to the theater commander.

(3) Authorization of United States military personnel in a type B unit may be modified by troop basis proponents as required by local area conditions of employment to enable the unit to effectively accomplish its mission.

f. This unit depends on the personnel service company, TOE 12-67, for personnel administration and on appropriate teams from the finance service organization, TOE 14-500, for finance service support.

g. The company depends on the headquarters or unit to which assigned or attached for supervision and facilities for wheeled vehicle and generator maintenance. General support maintenance for the LCM-8's will be provided by the transportation floating craft general support maintenance company (TOE 55-157); direct support for the LCM-8's will come from the transportation lighterage maintenance company, direct support (TOE 55-158).

h. Individuals of this organization can engage in effective, coordinated defense of the unit's area or installation.

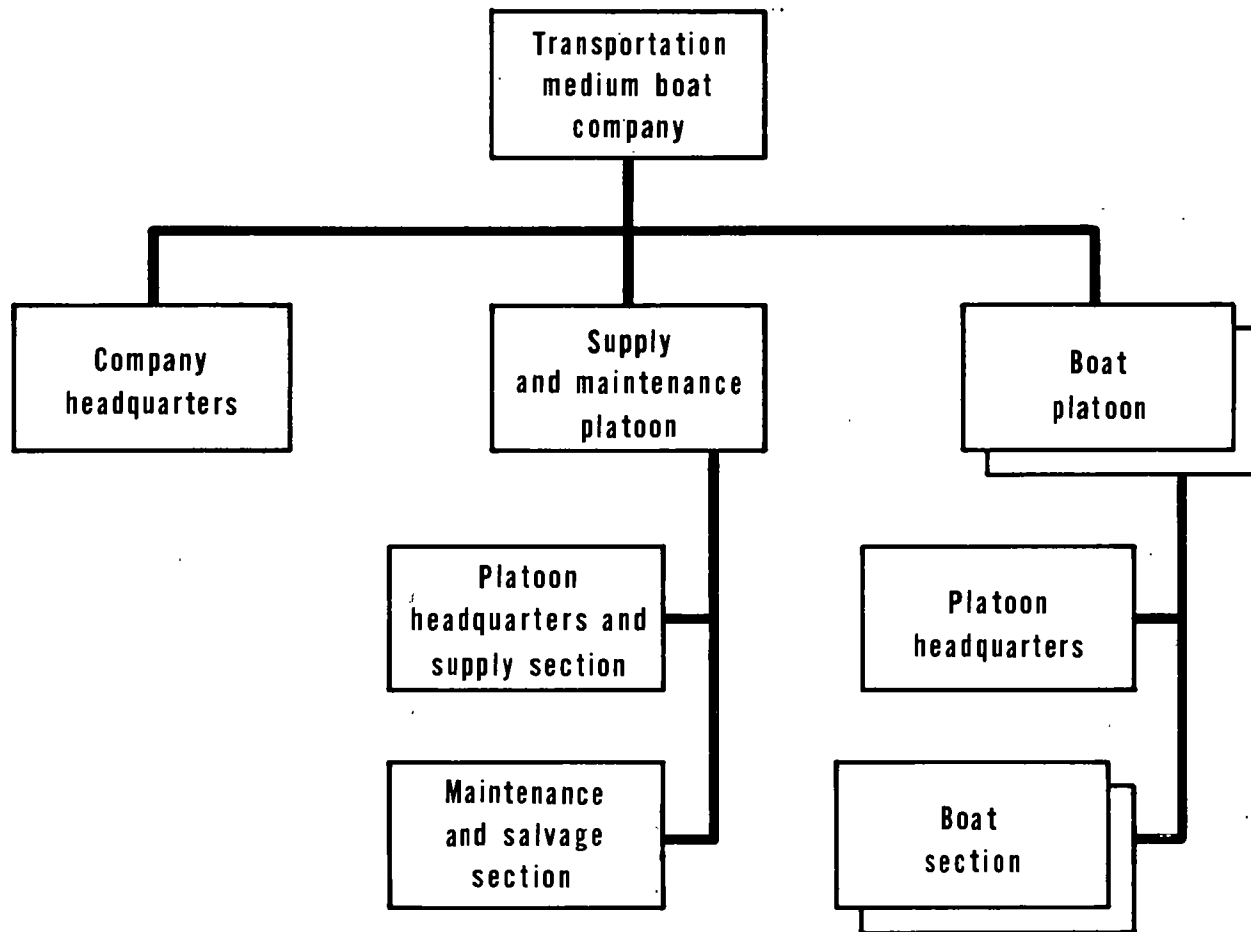


Figure 3-1. Transportation medium boat company (TOE 55-128).

3-4. Organization

The medium boat company (fig 3-1) consists of a company headquarters, a supply and maintenance platoon, and two boat platoons. Elements of the supply and maintenance platoon are the platoon headquarters and supply section and the maintenance and salvage section. Each of the two boat platoons is made up of a platoon headquarters and two boat sections.

a. Company Headquarters.

(1) The company headquarters provides command, administration, and control for all elements of the company. This includes planning, direction, supervision, supply, subsistence, communications, boat control, and clerical services.

(2) The company headquarters has two task LCM-8's which are used in the exercise of command and control. These two command and control craft are equipped to serve as floating command posts and communications centers. If a boat section or platoon is dispatched to another operational site or if the landing craft are being operated at widely dispersed locations, each of the two command and

control craft are employed where they can best exercise command and control.

b. *Supply and Maintenance Platoon.* The supply and maintenance platoon contains a platoon headquarters and supply section, and a maintenance and salvage section. The platoon leader is responsible to the company commander for supply, maintenance, and salvage activities. He is assisted by a salvage officer, a lieutenant (military occupational specialty 7210), who supervises the maintenance and salvage section, and a platoon sergeant, who is also a marine maintenance supervisor.

(1) The platoon headquarters and supply section, in addition to performing overall supervision and planning, requests, receives, inspects, classifies, stores, issues, and accounts for repair parts and supplies.

(2) The maintenance and salvage section is responsible for performing organizational maintenance, assisted by assigned boat personnel, and for salvage operations of organic watercraft. One LCM-8 is assigned to the maintenance and salvage section for use in contact repair and maintenance

and salvage operations. Direct support and general support maintenance are provided by appropriate transportation maintenance units.

c. Boat Platoons. Each of the two boat platoons in the medium boat company consists of a platoon headquarters and two boat sections. This organization permits relatively independent employment of a boat platoon or a boat section. For example, either a platoon or a section may be detailed temporarily from the company as part of a lighterage task force at another location. When so detailed, the element must be supported by a contact maintenance team from the supply and maintenance platoon. Each of the platoon headquarters has a platoon leader and a platoon sergeant. Each of the boat sections has four task LCM-8's and crews for around-the-clock operation. The section sergeant also serves as a coxswain on one of the section craft. Crew assignments to individual boats should be stabilized as much as possible. This promotes healthy competition between crews in operations and maintenance performance, and it aids in pinpointing responsibilities. Each craft has two landing craft operators, two senior marine enginemen, and two landing craft crewmen.

Section II. TRANSPORTATION HEAVY BOAT COMPANY (TOE 55-129)

3-6. Mission

The mission of the transportation heavy boat company is to provide and operate landing craft for transporting personnel and heavy cargo to include MILVAN's in offshore discharge operations and for augmenting lighterage service in a port or harbor, in inland or coastal waters, or in the open sea. It also includes providing lighterage service required in joint amphibious or other waterborne tactical operations. The task craft is the landing craft, utility (LCU).

3-7. Assignment

The heavy boat company has the same assignment as the medium boat company (para 3-2).

3-8. Capabilities

a. At TOE level 1 (full strength), the heavy boat company is capable of—

(1) Transporting per trip based on an average availability of 10 landing craft—

(a) 1,440 short tons (STON's) of general cargo, or

(b) 4,000 troops with individual equipment, or

3-5. Task Equipment

a. General Description. The company is equipped with a total of 19 LCM-8's. The LCM-8 is a welded steel or aluminum, twin screw craft for use in the landing of equipment, trucks, trailers, and tanks. It is intended for use in rough or exposed waters and is capable of operating through breakers and grounding on a beach, remaining upright and tight, and retracting from the beach under its own power. The craft is propelled by four marine diesel engines assembled as two twin-engine propulsion units.

b. Characteristics.

(1) Length, overall—74 feet 6 inches.

(2) Beam, extreme—21 feet.

(3) Mean draft, loaded—4 feet.

(4) Cargo capacity—53.5 long tons; cargo capacity, modification I—57.36 long tons; modification II—58.03 long tons.

(5) Cargo space:

(a) Length—42 feet 9 inches.

(b) Width—14 feet 6 inches.

(6) Speed, loaded—9 knots; modification II—11 knots.

(c) 540 STON's of vehicles, or

(d) 1,500 STON's of tanks.

(2) Transporting, in a one-time maximum lift, 1,800 STON's of general cargo or 4,800 troops with individual equipment, based on availability of 12 landing craft, each capable of transporting 150 STON's of cargo or 400 troops for a trip not exceeding 2 hours. (For trips in excess of 2 hours but less than 3 hours, the maximum troop lift is 4,200 and over 3 hours the maximum is 3,600.)

b. The productivity of the unit is affected by turn-around time (para 2-3b).

c. When organized under TOE levels 2 and 3, the operational capabilities are reduced to approximately 90 percent at level 2 and 80 percent at level 3.

d. The TOE is not adaptable to a type B organization.

e. Individuals of this organization can engage in effective, coordinated defense of the unit's area or installation.

f. This unit depends on adjacent units for vehicle maintenance (except driver maintenance) and mess support for shore-based personnel, on the personnel service company (TOE 12-67) for personnel admin-

istration, and on appropriate teams from the finance service organization (TOE 14-500) for finance service support.

3-9. Organization

The heavy boat company is organized into a company headquarters and two boat platoons (fig 3-2).

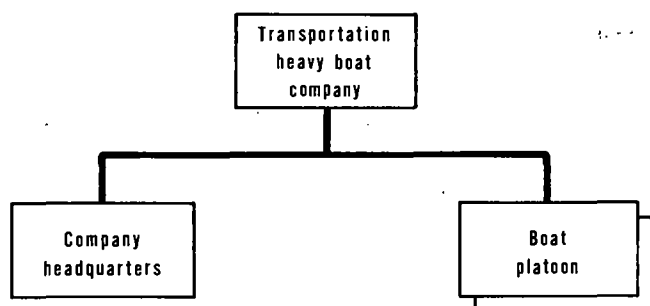


Figure 3-2. Transportation heavy boat company (TOE 55-129)

a. Company Headquarters. The company headquarters is organized and functions in a similar manner to the headquarters of a medium boat company (para 3-4a).

b. Boat Platoons. Each of the two boat platoons has a lieutenant platoon leader who is responsible to the company commander for operation of the six task LCU's assigned to the platoon. The LCU crew has two warrant officers, a master, and a marine engineer. The enlisted members of the crew are: assistant marine engineer (NCO), first mate (NCO), boatswain (NCO), boatswain mate (NCO), harbor craft operator, senior marine engineman, marine engineman, two crewman, an assistant crewman,

and a first cook. The vessel master is responsible for maintenance and the safe and efficient operation of his craft.

3-10. Task Equipment

a. General Description. The company is equipped with a total of 12 LCU's. The LCU has a welded steel hull, and is a triple screw, triple marine diesel engine-driven vessel. The vessel is self-sustaining and has living accommodations for 14 crew members. The LCU is equipped with a stern anchor to assist in retracting the lighter from the beach.

b. Characteristics.

- (1) Length overall—119 feet.
- (2) Beam, extreme—32 feet.
- (3) Mean draft, loaded—5 feet.
- (4) Cargo capacity—150 long tons.
- (5) Cargo space:
 - (a) Length—52 feet.
 - (b) Width—29.5 feet.

(6) Speed (is capable of a range of 700 nautical miles at an average speed of 7 knots).

c. Other Craft. The headquarters element of the heavy boat company has one picket boat assigned. It is used as a command and control vessel to coordinate efforts of boats of the operating platoons. The picket boat is also used to warn other vessels away from the operational area which may present a hazard to the ship-to-shore movement. Its characteristics are—

- (1) Design—J.
- (2) Length overall—36 feet 6 inches.
- (3) Beam—10 feet 7 inches.
- (4) Draft mean—2 feet 9 1/2 inches.
- (5) Crew—2.
- (6) Speed—15 knots.
- (7) Cruising range—355 nautical miles.

CHAPTER 4

TRANSPORTATION SERVICE ORGANIZATIONS

Section I. GENERAL

4-1. Mission

The mission of the transportation service organizations is as follows: *a.* To provide combat service support (for example, rail, watercraft, motor transport, watercraft maintenance, and terminal service teams) where units of less than company size are required.

b. To increase the capability of fixed strength units where increments of less than company size are required. These teams are designed to provide special support and will be assigned in accordance with the logistic considerations involved.

c. To provide command and administrative personnel for transportation composite units.

4-2. Assignment

Teams may be attached or assigned as required to fixed strength units or they may be organized into a separate composite unit.

4-3. Capabilities

a. The capabilities of the individual teams are given in the discussion of the particular team in the remaining sections of this chapter. The capabilities of a transportation composite unit of several teams will vary with the number and types of teams used.

b. Most of the teams must be furnished supply, mess, administrative, personnel, medical, signal, and organizational maintenance services. These services are ordinarily provided by a fixed strength unit to which the team is assigned or attached.

When applicable, mess teams will be drawn from TOE 29-500, organizational maintenance teams from TOE 29-600, and personnel services will be provided by a personnel service unit or a support team drawn therefrom. A composite unit formed from two or more teams may be commanded and provided administrative services by a team from TOE 55-500 (team AA, AB, or AC).

c. The teams are not adaptable to level 2 or 3 strengths nor to a type B organization. However, host country or allied nationals may in some cases be used to supplement team strength.

d. Individuals of the teams can engage in effective coordinated defense of the team's area or installation or contribute to the defense of the unit to which assigned or attached.

4-4. Basis of Allocation

The allocation of teams depends on the special support requirements. Type allocations are indicated in the discussion of individual teams (para 4-7 through 4-9).

4-5. Category

All teams listed herein are designated category III teams (reference unit categories, AR 310-50).

4-6. Mobility

The degree of mobility using organic transport is given for each team. When teams are combined to form a composite unit, the mobility of the composite unit must be computed.

Section II. HEADQUARTERS TEAMS, TOE 55-500

4-7. Team AA, Platoon Headquarters, Component

a. Capability. Provides command for a platoon which will normally be composed of more than one

team with an aggregate strength not less than 40 individuals and which will operate as a component of a larger organization.

b. Basis of Allocation. One per two or more service teams with a total strength of not less than

40 individuals and to which no commissioned officer is organically assigned.

c. *Strength*. One officer, one noncommissioned officer, and no enlisted men.

d. *Mobility*. One hundred percent mobile in organic vehicles.

4-8. Team AB, Platoon Headquarters, Separate

a. *Capability*. Provides command and administration of two or more teams in a separate operation.

b. *Basis of Allocation*. One per two or more service teams with a total strength of not less than 40 individuals and to which no commissioned officer is organically assigned.

c. *Strength*. One officer, one noncommissioned officer, and one enlisted man.

d. *Mobility*. One hundred percent mobile in organic vehicles.

4-9. Team AC, Company Headquarters

a. *Capability*. Provides command and administrative control of two or more service platoons or equivalent composition.

b. *Basis of Allocation*. One per unit comprising two or more platoons composed of teams with a total strength of not less than 80 individuals.

c. *Strength*. One officer, two noncommissioned officers, and four enlisted men.

d. *Mobility*. One hundred percent mobile in organic vehicles.

Section III. TRANSPORTATION WATERCRAFT TEAMS, TOE 55-530

4-10. Team FA, Deck Cargo Barge, Nonpropelled

a. *Capability*. Provides crew and craft necessary to transport 105 tons of dry deck cargo at 4 knots under tow.

b. *Basis of Allocation*. To a transportation terminal headquarters as required.

c. *Strength*. Two enlisted men.

d. *Mobility*. Can be loaded on the deck of another vessel for transoceanic movement.

4-11. Team FB, Picket Boat, 46-Foot

a. *Capability*. Provides water transport on a 24-hour basis of up to 10 passengers at 14 knots for patrol, command, inspection, and general utilities services in support of water terminal or inland water operations.

b. *Basis of Allocation*. To a transportation terminal headquarters as required.

c. *Strength*. One noncommissioned officer and five enlisted men.

d. *Mobility*. Can be deckloaded on a larger vessel for transoceanic movement.

4-12. Team FC, Deck or Liquid Barge, 120-Foot, Nonpropelled

a. *Capability*. Provides barge crew, pump operators, and nonpropelled lighterage for transporting 4,160 barrels of liquid cargo or up to 655 short tons of dry cargo on deck in towed waterway operations.

b. *Basis of Allocation*. To a transportation terminal headquarters as required.

c. *Strength*. One noncommissioned officer and three enlisted men.

d. *Mobility*. Can be towed overseas.

4-13. Team FD, Harbor Tug, 45-Foot

a. *Capability*. Performs tug and towing services on a 24-hour basis including shifting small nonpropelled barges at variable speeds up to 6 knots; provides assistance in patrolling, firefighting, and general utility use.

b. *Basis of Allocation*. To a transportation terminal headquarters as required.

c. *Strength*. One noncommissioned officer and five enlisted men.

d. *Mobility*. One hundred percent mobile by coastal or inland waterways.

4-14. Team FE, Passenger and Cargo Boat, 65-Foot, or Picket Boat, 65-Foot

a. *Capability*. Provides water transport on a 24-hour basis of up to 24 passengers or 27 short tons of cargo at an average speed of 11 knots. It also serves as a command and control craft for boat operations.

b. *Basis of Allocation*. To a transportation terminal headquarters as required.

c. *Strength*. One noncommissioned officer and six enlisted men.

d. *Mobility*. May be deckloaded on a larger vessel for transoceanic movement.

4-15. Team FF, Refrigerator Barge, Nonpropelled

a. Capability. Provides crew and craft necessary to transport 355 tons of refrigerated cargo at 4 knots under tow.

b. Basis of Allocation. To a transportation terminal headquarters as required.

c. Strength. One noncommissioned officer and five enlisted men.

d. Mobility. Can be deckloaded or towed for trans-oceanic movement.

4-16. Team FG, Harbor Tug, 65-Foot

a. Capability. Provides tug and towing services on a 24-hour basis including shifting barges, all sizes, at variable speeds up to 11 knots; assistance in docking and undocking of large vessels; and fire-fighting.

b. Basis of Allocation. To a transportation terminal headquarters as required.

c. Strength. Two warrant officers, one noncommissioned officer, and six enlisted men.

d. Mobility. One hundred percent mobile by coastal or inland waterways.

4-17. Team FH, Barge Crane, 68-Short Ton

a. Capability. Provides crew and craft on a 24-hour basis to load and discharge heavy lift cargo, up to 68 short tons per lift, which is beyond the capability of the ship's gear.

b. Basis of Allocation. To a transportation terminal headquarters as required.

c. Strength. One warrant officer, one noncommissioned officer, and 12 enlisted men.

d. Mobility. Can be towed to overseas areas.

4-18. Team FI, Barge Crane, 100-Short Ton

a. Capability. Provides crew and craft on a 24-hour basis to load and discharge heavy lift cargo, up to 100 short tons per lift, which is beyond the capability of the ship's gear.

b. Basis of Allocation. To a transportation terminal headquarters as required.

c. Strength. One warrant officer, three noncommissioned officers, and 14 enlisted men.

d. Mobility. Can be towed to overseas areas.

4-19. Team FJ, Harbor Tug, 100-Foot

a. Capability. Provides tug and general towing services including heavy tows within a harbor area, limited offshore towing between terminals, and berthing and unberthing of oceangoing vessels.

b. Basis of Allocation. To a transportation terminal headquarters as required.

c. Strength. Four warrant officers, two noncommissioned officers, and 10 enlisted men.

d. Mobility. One hundred percent mobile by ocean and by coastal or inland waterways.

4-20. Team FK, Oceangoing Tug, 126-Foot

a. Capability. Provides crew and craft to make ocean tows of barges and vessels.

b. Basis of Allocation. To a transportation terminal headquarters as required.

c. Strength. Six warrant officers, one noncommissioned officer, and 11 enlisted men.

d. Mobility. One hundred percent mobile by ocean and by coastal or inland waterways.

4-21. Team FL, Liquid, Dry, or Refrigerated Cargo Barge, 210-Foot, Self-Propelled

a. Capability. Provides crew and craft for lightering or transporting in terminals or coastwise routes not otherwise served by the Military Sealift Command, 11,000 barrels of liquid cargo, or 1,000 short tons of refrigerated cargo, or 1,000 short tons of dry cargo.

b. Basis of Allocation. To a transportation terminal headquarters as required.

c. Strength. Six warrant officers, three noncommissioned officers, and 19 enlisted men.

d. Mobility. One hundred percent mobile by ocean and by coastal or inland waterways.

4-22. Team FM, Beach Discharge Lighter

a. Capability. Provides personnel and equipment to transport large quantities of mobile and/or outsize equipment and unitized cargo from ships standing offshore to undeveloped beaches. This is accomplished by marrying with and discharging an ocean roll-on/roll-off vessel when fixed port facilities for roll-on/roll-off vessel discharge are not available.

b. Basis of Allocation. To a transportation terminal headquarters as required.

c. Strength. Eight warrant officers, six noncommissioned officers, and 26 enlisted men.

d. Mobility. One hundred percent mobile by ocean and by coastal or inland waterways.

4-23. Team FN, Lighter, Amphibian, LARC-60, Operation and Maintenance

a. Capability. Provides crews and amphibious lighterage, transporting daily in two 12-hour shifts, 450 short tons of heavy, outsize, or bulky equipment

to or across a beach in logistics over-the-shore or amphibious operation. This is based on 75 percent availability of the four assigned LARC-60's, each making five trips daily. Each LARC-60 has a rated capacity of 60 short tons or 125 combat-equipped personnel. The team is also capable of performing its own amphibian maintenance to include direct and general support.

b. Basis of Allocation. To a transportation terminal headquarters as required.

c. Strength. Two officers, one warrant officer, 11 noncommissioned officers, and 40 enlisted men.

d. Mobility. One hundred percent mobile for limited overland movement or by inland waterway movement.

Section IV. WATERCRAFT MAINTENANCE TEAMS, TOE 55-550

4-24. Team IA, Diver Team

a. Capability. Provides personnel and equipment to perform deep and shallow water diving functions to include underwater welding and cutting, salvage, hull repair, and structure inspection and repair. The team is also capable of performing underwater reconnaissance missions.

b. Basis of Allocation. One or more per terminal group or watercraft maintenance unit as required.

c. Strength. One officer, one noncommissioned officer, and six enlisted men.

d. Mobility. Fixed

4-25. Team IB, Floating Craft Maintenance Team, Organizational

a. Capability. Provides 1,800 man-hours of hull and engine organizational maintenance per month on floating craft (watercraft).

b. Basis of Allocation. To a watercraft unit organized from TOE 55-530 teams on the basis of one per 1,800 man-hours of hull and engine organizational maintenance required per month.

c. Strength. One noncommissioned officer and nine enlisted men.

d. Mobility. Fixed.

4-26. Team IC, Floating Craft Maintenance Team, General Support

a. Capability. Provides 2,800 man-hours of hull

and engine general support maintenance per month on floating craft.

b. Basis of Allocation. One per 2,800 man-hours of hull and engine general support, maintenance required per month by a transportation terminal group or a transportation floating craft general support maintenance company (TOE 55-157).

c. Strength. One noncommissioned officer and 18 enlisted men.

d. Mobility. Fixed.

4-27. Team ID, Lighterage Maintenance Team, Direct Support

a. Capability. Provides 4,600 man-hours of hull and engine direct support maintenance per month on wheeled amphibians and landing craft. The team is also capable of providing contact maintenance teams for on-site repair of disabled wheeled amphibians.

b. Basis of Allocation. One per each 4,600 man-hours per month of direct support of wheeled amphibians and landing craft required by a transportation terminal group or a watercraft unit organized from TOE 55-530 teams.

c. Strength. One warrant officer, two noncommissioned officers, and 27 enlisted men.

d. Mobility. On hundred percent mobile.

CHAPTER 5

DUTIES OF PERSONNEL, WATER TRANSPORT UNITS

5-1. General

The duties of key personnel in the light and medium amphibian companies and the medium and heavy boat companies are discussed in this chapter. Many of the positions and duties of the key personnel are the same in each of the watercraft units. These same duties also apply to the watercraft teams discussed in chapter 4. To eliminate duplication in explaining similar functions in like positions for each unit and also to facilitate locating a particular duty position by military occupational specialty (MOS) or unit, table 5-1 may be referred to for the paragraph number of each duty description.

5-2. Company Commander (MOS 0668/0825)

a. The watercraft company commander directs and supervises the operation and employment of his unit in the delivery of troops and supplies in logistics over-the-shore (LOTS) and amphibious operations. He is also an administrator for he must assure that, in performing the unit table of organization and equipment (TOE) mission, all the necessary functions are accomplished to properly clothe, equip, feed, house, assign, discipline, train, and maintain his personnel in a high state of morale, health, and readiness.

b. In directing the accomplishment of the mission, the commander must have a thorough knowledge of piloting, small craft navigation, beaching and retracting operations, beach characteristics, capabilities and characteristics of his equipment, spare parts and fuel supply procedures, and preventive maintenance requirements for Army watercraft. He is assisted and advised in the performance of his duties by his unit officers and key noncommissioned officers.

c. His responsibilities include but are not limited to the following:

(1) Managing the company and planning, directing, and supervising its operations so that the unit carries out its primary mission of providing the

required water transport capability to meet the transport requirements established by higher authority.

(2) Directing and supervising all matters pertaining to unit administration, supply, and mess management.

(3) Supervising preparation of training schedules per Army training programs and requirements directed by higher headquarters, conducting unit training in conformance with the appropriate training program to attain prescribed training objectives, and instructing in this program to help improve the skills and promote teamwork and esprit de corps of unit personnel.

(4) Managing and supervising the assignment, reassignment, and cross-training of subordinates and other unit personnel.

(5) Directing and supervising the maintenance and care of individual and organizational equipment and materiel through established programs and schedules.

(6) Developing unit policies, procedures, and standing operating procedures (SOP's) to fit the unit's current mission and environment, consistent with policies and directives of higher headquarters, and ensuring that the unit functions within these policies.

(7) Establishing and maintaining a high degree of communications security.

(8) Initiating a unit safety program and ensuring adherence to the program.

(9) Maintaining high standards of leadership, discipline, morale, and esprit de corps within the unit.

(10) Keeping unit personnel and higher headquarters informed of the current situation.

(11) Performing frequent inspections within the unit to ensure that—

(a) His orders are carried out.

(b) Routine work details are equitably distributed.

Table 5-1. Watercraft Unit Duty Positions

			TOE units			
	Paragraph number	MOS	Medium boat company 55-128	Heavy boat company 55-129	Light amphibian company 55-138	Medium amphibian company 55-139
<i>Officers</i>						
Company commander.....	5-2	0668	X		X	X
Company commander.....	5-2	0825		X		
Lighter control center officer.....	5-3	0668			X	X
Lighter control center officer.....	5-3	0825		X		
Operating platoon leader.....	5-4 a, b	0668	X		X	X
Operating platoon leader.....	5-4 a, b	0825		X		
Supply and maintenance platoon leader.....	5-4 a, c	4804	X			
Salvage officer.....	5-5	4804	X			
<i>Warrant officers</i>						
Master.....	5-6	561D		X		
Marine engine technician.....	5-7	562B		X	X	X
Chief engineer.....	5-8	562D		X		
<i>Key noncommissioned officers (NCO's)</i>						
First sergeant.....	5-9	61Z50	X	X	X	X
Supply sergeant.....	5-10	76Y40	X	X	X	X
Mess steward.....	5-11	94B40	X		X	X
Lighter control center sergeant.....	5-12	61D40			X	X
Harbor craft NCO.....	5-13	61B40		X		
Operating platoon sergeant.....	5-14	61B40	X			
Operating platoon sergeant.....	5-14	61D40			X	X
Supply and maintenance platoon sergeant.....	5-15	61C40	X	X		
Maintenance supervisor.....	5-16	61E40			X	X
Section sergeant.....	5-17	61B40	X			
Motor sergeant.....	5-18	63C40			X	X
First mate.....	5-19	61B40		X		
Boatswain.....	5-20	61B40		X		
Communications chief.....	5-21	31G40		X		
<i>Other key personnel</i>						
Landing craft operator.....	5-22	61B30	X	X		
Amphibian operator.....	5-23	61D20			X	X
Senior marine engineman/marine engine mechanic.....	5-24	61C20	X	X		
Senior amphibian engineman.....	5-25	61E20			X	X
Crewman.....	5-26	61B20	X	X		
Seaman.....	5-26	61A10	X	X	X	X

(c) Food is properly prepared.

(d) Living quarters are properly maintained.

(12) Emphasizing and practicing supply economy through the proper care, use, and maintenance of equipment and facilities.

(13) Being available, when appropriate, to discuss matters of personal or mutual interest with unit personnel; in this regard, ensuring that the troops are promptly paid and properly assigned and utilized.

(14) Supervising and maintaining a command information program.

(15) Administering military justice fairly, impartially, and promptly.

(16) Delegating authority to unit officers and NCO's consistent with their position and effective operation of the unit.

d. The commander's checklist in appendix D provides a guide to the commander in the administration and operation of his unit; through its use he may measure the efficiency and state of training of his unit. Applicable portions of this checklist may also be used by platoon leaders and key NCO's of the unit as a guide for items within their areas of responsibility.

5-3. Lighter Control Center Officer (MOS 0668/0825)

a. The lighter control center officer is usually next

in seniority to the unit commander. He possesses the same MOS as the unit commander and is therefore knowledgeable in the same areas. He assumes command in the absence of the unit commander. The lighter control center officer is responsible for controlling and coordinating all operations within the unit. When the unit has been assigned a mission or task, this officer ensures that the proper methods and procedures are followed for an efficient and safe operation.

b. His responsibilities include determining lighterage requirements based on mission-directed requirements, the capability of each lighter, and the turnaround time; making adjustments based on operational progress, maintenance requirements, and other mission assignments; supervising the maintenance of operational records and their central dispatching; directing communications with control points, maintenance and standby areas, higher headquarters, and operationally allied and adjacent units.

c. In addition to operating the lighter control center, he assists the unit commander in the administrative duties of the unit.

5-4. Platoon Leaders

a. *General.* The platoon leaders of water transport companies have the same responsibilities for training, discipline, and morale that fall upon platoon leaders in any military organization. Although a platoon leader cannot give company punishment, he does in effect command an element of a water transport unit and is responsible for the platoon's actions regarding its mission and its personnel. Some of the duties of platoon leaders in general include—

(1) Supervising the technical training of the platoon members in all facets of their duties.

(2) Conducting inspections of platoon members' individual clothing and equipment for serviceability and availability.

(3) Preparing daily availability reports of platoon personnel and submitting a copy to the company operations center as prescribed by the unit SOP.

(4) Assuming custody of platoon equipment.

(5) Conducting preliminary investigation and preparing reports to the company commander when platoon personnel are involved in accidents and incidents.

(6) Presenting instructions to the platoon or the entire company as prescribed by the unit training schedule.

(7) Organizing defense of the platoon's area of responsibility in bivouac in coordination with other platoons, and preparing and submitting a sketch of the defense plan to the unit commander.

(8) Assuming responsibility for those additional duties such as mess officer, security officer, investigating officer, and summary court officer, as may be assigned by the company commander.

(9) Keeping the unit commander informed of all phases of platoon training and operations; and discussing with and advising the company commander on matters pertaining to unit administration, mess, supply, training, and operation.

b. *Operating Platoon Leader (MOS 0668/0825).*

(1) More specifically, the platoon leaders of the operating platoons, boat or amphibian, are responsible to the commanding officer for accomplishing the unit mission of moving cargo from shipside to beaches, or across beaches if amphibian. They are responsible for training the platoon as a part of the company team and as a self-reliant unit capable of operating as a separate unit. They also supervise the performance of operator maintenance.

(2) The platoon leaders determine the most effective employment of the NCO's so as to maintain the necessary controls at the beach, aboard ship, and at discharge areas (amphibians only) during a support operation.

(3) The platoon leaders direct their operations principally from a beach control point, keeping the commander informed through the lighter control center concerning the progress of the operation and any problems encountered or anticipated.

c. *Supply and Maintenance Platoon Leader (MOS 4804).* This platoon leader position is found only in the medium boat company of the Army watercraft units. He is responsible to the company commander for the supply and maintenance activities of the unit. In these activities, he is responsible for—

(1) Establishing a records system in accordance with TM 38-750.

(2) Providing guidance to assigned supply and maintenance personnel in the accomplishment of the repair parts supply and organizational maintenance functions.

(3) Assuring that the unit maintains on hand or on order the proper tools, the prescribed load of repair parts, and cleaning materials authorized.

(4) Determining the nature and extent of repairs and reconditioning required to the vessels' hulls, superstructures, engines, and other components.

(5) Assuring that preventive maintenance is performed and directing the scheduling of organizational maintenance on all vessels.

(6) Inspecting materiel and equipment for quality workmanship.

(7) Preparing the supply and maintenance annex to the unit SOP.

(8) Reporting daily status of equipment to the unit commander.

(9) Establishing contact teams ready to perform onsite emergency repairs and salvage as required. (Insuring that teams are trained and properly equipped.)

(10) Establishing a company plan for the destruction of supplies and equipment, if required.

(11) Enforcing shop safety practices.

(12) Assisting and advising the company commander in the assignment of capable personnel within his area of responsibility and in the conduct of the various phases of their training, and advising the unit commander on maintenance problems.

(13) Maintaining liaison with maintenance support units.

(14) Conducting maintenance inspections as directed by the unit commander, and making recommendations for the improvement of watercraft maintenance.

5-5. Salvage Officer (MOS 4804)

a. The salvage officer supervises the maintenance and salvage section in the supply and maintenance platoon of the medium boat company. He is responsible to the supply and maintenance platoon leader for the performance of organizational maintenance and salvage of the task landing craft. He performs the duties of the platoon leader in his absence.

b. He assists in developing the maintenance annex to the unit SOP.

c. He organizes and trains a team of maintenance specialists ready to perform emergency repairs and salvage operations on assigned craft when the need arises.

5-6. Master (MOS 561D)

Warrant officer masters are in command of the landing craft, utility (LCU) of the heavy boat company and of certain watercraft (normally self-propelled Army watercraft 65 feet and longer) in the TOE 55-530 teams. The master is responsible for every action which results from either the ship's movements or the individual actions of the crew. Only his immediate unit commander can relieve

him of his responsibility as master. Specifically, he is responsible for—

a. Insuring that the vessel is operated efficiently, safely, and economically. This includes insuring that the crew keeps the vessel in proper condition regarding cleanliness, painting, and repairs.

b. Deciding whether to enter or leave port and whether to navigate his vessel in hazardous waters.

c. Supervising the conduct of the crew and passengers.

d. Insuring that his vessel is prepared to sail at the time scheduled but that it does not sail unless it is properly manned and fitted to perform the assigned mission and is in all respects seaworthy. Prior to sailing, he will make an operational check of all navigational, lifesaving, and communications-electronics equipment.

e. Insuring that the vessel is properly supplied and that sufficient fuel and fresh water are on board prior to sailing. He sees that these items are replenished immediately after the mission.

f. Personally supervising any movement of the vessel from or to its berth unless he is officially absent. Prior to leaving the vessel, he instructs the mate as to the care of it and the business to be conducted during his absence.

g. Insuring that sufficient officers and crew are on board to safeguard the vessel in case of fire, adverse weather, or pilferage, and to shift berths.

h. Being thoroughly familiar with Army regulations and special orders concerning vessel operations.

i. Maintaining a current library of the navigation laws, rules, customs, and courtesies contained in TM 55-501 and the provisions of the United States Code of Federal Regulations Title 46. He complies with them in all respects. He assures that the applicable "rules of the road" regarding lights and signals are observed both at sea and while in port. *He gives special attention to the use and care of communications-electronics equipment and other navigational aids on his vessel.* Should a collision occur, the master insures that the procedures in US Coast Guard Publication (CG 169) are followed.

j. Consulting with a medical officer or other authority in case of sickness on board and for taking appropriate action.

k. Being thoroughly familiar with and strictly complying with Federal and local pollution laws.

l. Insuring that an accurate record of events is entered daily in the deck logbook, that no erasures are made in the log, and that no pages are removed. (Errors in the log are corrected by a single line

through the error in ink with the person making the correction affixing his initials.) He insures that the deck logbook is prepared in accordance with instructions contained therein. He will establish and maintain, when required, a current night order book with general and special instructions for the night watch officer.

m. Entering a record of collisions, groundings, or accidents of any nature in the deck logbook with full and exact particulars. These particulars will discuss any exceptional experiences which may have affected the navigation of the vessel such as influence of current, winds, and other conditions. He will report such occurrences to the commander of his home port by the most expeditious means. A written report as required will detail the circumstances of the occurrence and be accompanied by signed statements of witnesses (AR 55-19).

n. Insuring that any violation of regulations affecting safety, operation, or discipline are entered in the deck logbook and that the corrective action taken is noted.

o. Insuring that the officers and crew are properly uniformed and that all personnel on board maintain a clean and neat appearance.

p. Insuring that a current station bill and muster list are posted. A record of all drills and inspections of emergency and safety equipment will be entered in the deck logbook with explicit notations of any defects discovered.

q. Maintaining a record of the time the vessel is underway, the amount of fuel consumed each day, the number of personnel and quantity of stores or freight transported, and other duties that the vessel performed. (This information is used in reports of services performed by the watercraft.)

r. Insuring that unauthorized personnel are not allowed aboard and that passengers are not permitted to enter off-limit areas or interfere with crewmembers performing their duties.

s. Insuring that all publications and equipment required for the safe navigation of the vessel are on board and that they are properly maintained.

t. Insuring that the watercraft is navigated safely. He will be present on the bridge during inclement weather, when visibility is reduced, if approaching or leaving narrow channel ways during periods of darkness, when navigating in crowded waters, when docking or undocking, and when beaching or retracting.

u. Insuring that a safe and moderate speed is maintained when the watercraft is navigating narrow channels or crowded waters, when it is passing tows or deep-laden small craft, or when

there is limited visibility or other adverse conditions.

v. Insuring that the gyro, magnetic compasses, and radar are properly maintained; that an accurate deviation card is posted; that hourly comparisons of the compasses are made while underway; and that an azimuth is taken at least once a watch when the weather and existing conditions permit. Any errors detected will be entered in the logbook.

w. Approving the prestowage plan and insuring that all cargo is checked onboard and stowed as planned. He is responsible for the proper trim and stability of the watercraft and for insuring that the pre- and post-sailing drafts are logged and that personnel and cargo accepted onboard are properly documented.

5-7. Marine Engine Technician (MOS 562B)

This warrant officer position is found in the maintenance section of both the light and medium amphibian companies and the heavy boat company. As section chief, he has overall supervisory responsibility for the organizational maintenance prescribed by the technical manuals applicable to the specific item of equipment and watercraft. He is also responsible for seeing that preventive maintenance services are performed by the equipment operators, and that the organizational mechanics assist with preventive maintenance services when required. His maintenance functions are the same as those required by the supply and maintenance platoon leader (para 5-4c).

5-8. Chief Engineer/Marine Engineer (MOS 562D)

Warrant officers hold this position as chief engineer on the LCU of the heavy boat company and certain other watercraft in the TOE 55-530 teams. The chief engineer is responsible to the master for the efficient and economical operation of the engine department. Normally, the chief engineer does not stand watch if there are four or more engineers in the engine department. More specifically, his responsibilities include—

a. The efficient and economical operation of the engineroom machinery, auxiliary machinery, and deck machinery.

b. Coordination with the deck department to ensure safe operation of the vessel.

c. Supervising the administrative and technical activities of the engineroom.

d. Exercising immediate control over all persons connected with the engine department and insuring

that discipline and efficiency are maintained in that department and that all orders from the master are executed promptly.

e. Establishing and maintaining the watch schedules for the engineroom.

f. Insuring that the engineroom logbook is prepared in accordance with instructions contained therein.

g. Maintaining all applicable records, reports, and repair parts inventory required by TM 38-750 and AR 710-2.

h. Directing and supervising the maintenance and repair of engineroom machinery, electrical equipment, and deck machinery.

i. Transferring of fuel or water for ballast purposes as directed by the master.

j. Insuring that the engine signals from the bridge are properly executed.

k. Preparing specifications and requesting repairs beyond the capability of the crew (AR 750-1).

l. Reporting defects to the master which are beyond his capability to repair.

m. Insuring that unauthorized personnel do not enter the engineroom.

n. Consulting the master before stopping the engines, except in an emergency. In an emergency stoppage, he will immediately inform the master or mate of the cause and probable duration of the stoppage.

o. Reporting to the master any violation of the regulations governing the engine department.

5-9. First Sergeant (MOS 61Z50)

The first sergeant is the principal NCO of the unit. His progression through the enlisted ranks to this level may be either through qualification as a watercraft or an amphibian operator or through the marine and amphibian engineer career field. He must be thoroughly knowledgeable in all aspects of company administration, operations, and maintenance. He calls formations, manages the company headquarters, and coordinates company activities such as mess, administration, supply, and communications. He acts as the intermediary between the company commander and the enlisted personnel of the unit. His duties include the following:

a. Supervising and inspecting the performance of duties by subordinate NCO's of the unit.

b. Supervising the administration of the company headquarters, including files and preparation of company correspondence and special and recurring reports.

c. Planning and posting daily company details, coordinating with operating personnel when necessary.

d. Maintaining duty roster.

e. Supervising preparation of the morning report and maintenance of the personnel status board.

f. Preparing unit administrative SOP's in coordination with other key personnel (mess, supply, and maintenance).

g. Exercising supervisory responsibility over housekeeping duties, work details, police, maintenance, and construction projects in the company areas.

h. Assisting the unit commander in advising enlisted personnel on personal problems.

i. Keeping the unit commander advised on the welfare of the troops.

j. Assisting the unit commander in the appraisal of the unit operations and training.

5-10. Supply Sergeant (MOS 76Y40)

Each of the four watercraft companies has a supply sergeant. He supervises such personnel as an armorer, a supply clerk, a repair parts specialist, and a petroleum storage specialist in performing the unit supply functions. The supply sergeant should possess a thorough knowledge of directives prescribing the care and storage of supplies and equipment. He should be well grounded in the fundamentals of inventory accounting methods and procedures for maintaining hand receipts and supporting records. His specific duties encompass the following:

a. Receipting for unit property as authorized by the unit commander.

b. The drawing, issue, and turn-in of supplies and equipment prescribed by the appropriate TOE or other authority between the unit and authorized individual.

c. Preparing and maintaining unit supply records to account for all supplies and equipment drawn by supply personnel.

d. Properly securing all property and supplies stored in the unit supply room.

e. Receiving equipment rendered unserviceable through fair wear and tear, arranging for its turn-in to the appropriate supply facility, and drawing replacement.

f. Processing unit laundry to include receipt of laundry from individuals, delivery to military laundry, and return to the individual.

g. Insuring that repair parts supply procedures are functioning effectively, and keeping the unit

commander apprised in this and other supply matters.

h. Determining the need for and obtaining selected expendable supplies for the unit.

5-11. Mess Steward (MOS 94B40)

a. An enlisted mess steward is found in all the watercraft companies, except the heavy boat company which has the facilities and cooks for dining aboard the LCU's. The mess steward works under the supervision of the mess officer (usually an additional duty for a unit officer) and is responsible for the efficient operation of the company dining facility. He supervises and is responsible for drawing rations, proper preparation of meals, conformance by all unit food service personnel with appropriate food handling directives, and efficient management practices in operating the dining facility.

b. He works in close coordination with the first sergeant, operations sergeant, and platoon sergeants concerning dining facility activities so that he will know how many meals to prepare and where and when to serve them, thus adjusting meal services to meet operational requirements. In addition to routinely served meals, food must be provided to watercraft operators under a variety of circumstances and conditions. Meals are required for operators and others who are on duty during normal meal hours, working at night, or operators who are away from the company area for extended periods. Hot meals should always be served except when it is absolutely impossible.

c. Some suggested solutions to the dining problems imposed by unit operational requirements are—

(1) Operating a 24-hour dining facility with four to six servings.

(2) Separate dining detachments accompanying craft in convoy.

(3) Split feeding facilities; that is, part at the unit area, part at the beach control points, and part at discharge control points (amphibians only).

(4) Reciprocal dining arrangements with other watercraft or terminal type units.

(5) Prepared meals carried in insulated food containers.

(6) Individual rations of the combat or food packet type.

(7) Box lunches. These are the least desirable and should not be employed repeatedly.

d. Duties of the mess steward include the following:

(1) Supervising the preparation and planning of meals for the company.

(2) Drawing, inspecting, and storing rations.

(3) Insuring that all food service practices meet sanitary standards prescribed by Army directives.

(4) Maintaining cooking equipment, including field equipment, in a serviceable and sanitary condition.

(5) Establishing a duty schedule for dining facility personnel.

(6) Maintaining the required head count, dining facility records, menus, and reports.

(7) Accounting to the mess officer for all rations drawn by the unit.

(8) Providing dining facility crews and equipment to platoons operating independently.

(9) Keeping the unit commander informed of the food service situation.

5-12. Lighter Control Center Sergeant (MOS 61D40)

The lighter control center sergeant works under the control of the lighter control center officer of the amphibian companies. He assists the lighter control center officer in the coordination, supervision, and control of all essential details incident to the proper operation of the amphibians. The lighter control center sergeant may be called upon when the lighter control center is not in operation to assist in organizing and supervising operator training to include operator preventive maintenance, documentation, and loading and securing cargo. His specific duties may include—

a. Coordinating with the amphibian platoon leaders, the maintenance supervisor, and the first sergeant to ensure having complete and up-to-date information of personnel status and lighter availability.

b. Assisting in the preparation of the operations portion of the unit SOP.

c. Manning one shift of the lighter control center when in operation.

d. Checking lighter requirements against availability.

e. Determining lighter requirements for specific missions.

f. Establishing initial lighter dispatch.

g. Controlling routing of lighters.

h. Maintaining operational records.

i. Assisting in formulating plans for future operations.

j. Maintaining contact with and coordinating actions between all control elements—lighter control center, beach control points, shipboard control points, and discharge control points.

k. Reporting evidence of lighter neglect or abuse or operator carelessness to the company commander.

l. Supervising the dispatcher in keeping records in accordance with TM 38-750.

m. Assisting the lighter control center officer in the preparation of operational reports.

5-13. Harbor Craft NCO (MOS 61B40)

The harbor craft NCO of the heavy boat company has many of the same duties as the lighter control center sergeant of the amphibian companies (para 5-12). The principal differences are that the harbor craft NCO comes under the direct supervision of the company commander and not a lighter control center officer, and his area of operation does not extend beyond the beach line as does the lighter control center sergeant of the amphibian companies. Some of his specific functions may be to—

a. Control boat operations on an assigned portion of beach.

b. Make ground reconnaissance of the beach, assist in reconnoitering the water approaches, and determine the depth of water offshore.

c. Supervise erection of range markers and other landing aids on the beach and markers for navigational hazards.

d. On beach landing, assist in setting up the command post and establishing the necessary communications.

e. Instruct platoon sergeants and operators on type of beach bottom, water depths, location of rocks, shoals, bars, sunken wrecks, and other obstacles.

f. Direct landing craft to proper landing places and give instructions to coxswains concerning proper angle of approach, speed, beaching, lowering of ramp, unloading, and retracting.

5-14. Operating Platoon Sergeant

a. *General.* The operating platoon sergeant (both the amphibian platoon sergeant (MOS 61D40) and the boat platoon sergeant (MOS 61B40)) assists the platoon leader in directing the operating activities and training of the platoon. Through his section leaders/sergeants, he supervises and coordinates the operations of the sections under him. During the absence of the platoon leader, the platoon sergeant assumes his duties. When the platoon operates sepa-

ately from the company, the platoon sergeant performs many of the duties normally performed by the first sergeant. There are some variances in duties between the amphibian and boat platoon sergeant; however, those covered here will in most cases apply to both platoon sergeants. Where the function applies to only one platoon sergeant, it will be indicated. In addition to directing the operation and training of his platoon, the operating platoon sergeant will generally operate lighter control points for each company operation in coordination with the overall lighter control center. Their duties in each of these capacities are covered in the following paragraphs.

b. Beach Control Point NCO.

(1) Facilitate the entry and exit of amphibians over the beach; facilitate the beaching and retracting of landing craft.

(2) Establish and maintain radio contact with individual lighters and a shipboard control point, and both radio and telephone contact with all shore based company activities.

(3) Inspect amphibians for seaworthiness prior to dispatch to a vessel and again on emergence from the water.

(4) Control the flow of lighters to and from the vessel and beach (discharge area for amphibians).

(5) Provide shipside reporting instructions to lighter operators.

(6) Report discrepancies in securing cargo aboard lighters.

(7) Maintain a lighter control board (FM 55-50).

(8) Establish and maintain day and night range markers for guiding lighters to the beach.

(9) Keep the lighter control center advised on the progress of the operation.

c. Shipboard Control Point NCO.

(1) Insure that no ship unloading delays are due to nonavailability of lighters under the cargo hook.

(2) Direct excess lighters back to the beach control point.

(3) Supervise the rigging of lighter mooring lines.

(4) Control and spot lighters alongside the vessel.

(5) Maintain close coordination with the terminal service company ship platoon sergeant as to contemplated actions that may delay or expedite the ship discharge and affect lighter requirements at the vessel.

(6) Insure that the drafts are not lowered to the lighter in a manner that endangers either the lighter or the crew.

(7) Determine the amount of cargo to be carried on each lighter and the proper securing of cargo onboard the lighter.

(8) Maintain radio communications with the beach control center and keep the lighter control center informed on progress of ship operation.

d. Discharge Control Point NCO.

(1) This position, referred to as a beaching point for the landing craft operations, may be located in conjunction with the beach control point, depending on the size of the beach area.

(2) Direct the landing craft to the appropriate debarkation point for wheeled vehicles, ammunition, rations, water, POL, etc.

(3) Provide technical advice and assistance to ensure the most effective unloading and turnaround of lighters.

(4) Supervise operating crews to ensure adherence to safe unloading practices.

(5) Insure that lighters are unloaded as rapidly as possible to prevent lighter backlogs and congestion at the beach and discharge areas.

(6) Arrange for prompt return of cargo nets, slings, and pallets to the vessel.

5-15. Supply and Maintenance Platoon Sergeant (MOS 61C40)

The supply and maintenance platoon sergeant, who is also a marine engine maintenance supervisor, assists the platoon leader in the operation of the supply and maintenance platoon of the medium boat company. He must have a thorough knowledge of Army equipment records procedures as they pertain to unit equipment and be capable of diagnosing mechanical trouble in vessels and instructing maintenance personnel in corrective action. He must be familiar with TM 38-750, appropriate vessel technical manuals, applicable technical bulletins, modification work orders, and lubrication orders. He must know Army marine operation, maintenance, inspection, and repair. He must organize the company shop and operate it in accordance with sound shop procedures. His duties include the following:

a. Assigning tasks to maintenance personnel in conformance with schedules and priorities established by the platoon leader.

b. Diagnosing mechanical trouble or failure and when necessary instructing mechanics as to proper corrective action to be taken.

c. Inspecting work performed by unit maintenance personnel.

d. Supervising the repair, recovery, and/or evacuation of disabled and/or wrecked vessels.

e. Supervising spare parts receipt, issue, inventory, and storage.

f. Maintaining equipment maintenance records.

g. Training maintenance personnel as required.

h. Advising operating platoon sergeants on maintenance matters.

i. Enforcing shop safety practices.

5-16. Maintenance Supervisor (MOS 61E40)

The maintenance supervisor assists the marine engine technician of the light and medium amphibian companies in the performance of organizational maintenance. His duties are basically the same as the supply and maintenance platoon sergeant (para 5-15).

5-17. Section Sergeant (MOS 61B40)

A section sergeant is in charge of each of the four boat sections of the medium boat companies. His duties as the section sergeant are the same as those of the boat platoon sergeant (para 5-14) except that they pertain to the section instead of the platoon. He also serves as coxswain (landing craft operator) on one of the landing craft in his boat section. The duties of the coxswain (para 5-22) are the same as those of the master (para 5-6) except as limited by the size of his craft.

5-18. Motor Sergeant (MOS 63C40)

The motor sergeant of the light and medium amphibian companies is responsible for the performance of organizational maintenance of the assigned wheeled vehicles. He supervises two wheeled vehicle mechanics. His duties are basically the same as those of the supply and maintenance platoon sergeant (para 5-15) in that all maintenance records are governed by TM 38-750. The exception is the type of equipment on which the organizational maintenance is performed, which is governed by the maintenance allocation charts in the technical manuals for the particular items of equipment.

5-19. First Mate (MOS 61B40)

The enlisted first mate acts as assistant to the master of the LCU and assumes the master's responsibilities during his absence. The mate stands the second 12-hour watch during which he personally directs and controls the operation of the vessel and the crew on watch. Specifically, he is responsible for—

a. Insuring that all of the master's instructions are obeyed.

b. Supervising the deck department. When in port, he supervises deck maintenance, cargo operations, and general ship's business. At sea, he takes charge of the navigation of the vessel during his watch. He informs the master of any unusual circumstances that may arise and keeps aware of the exact location of the vessel. He insures that all watch standers are alert and paying full attention to the details of their duties. Prior to relieving the mate on watch, he will read and initial the remarks in the master's night order book.

c. Assisting the master in the pilothouse in adverse weather, confined waters, or at any other time the master requires his services.

d. Notifying the master when any unusual obstructions to navigation are discovered, when the vessel appears to be approaching danger of any kind, and when unusual changes in the weather or other unexpected occurrences are observed.

e. Maintaining the prescribed course. When necessary to avoid sudden danger, he will act on his own judgment without awaiting the master's instructions.

5-20. Boatswain (MOS 61B40)

The boatswain is the immediate supervisor of the crewmen. He assigns duties to each individual deck member to accomplish the overall operation. He is responsible to the first mate for maintenance of the gear and equipment of the deck department and for supervising deck department personnel in operations, training, emergency drills, and watches. His responsibilities include—

- a. Inspecting firefighting equipment.
- b. Ascertaining that the vessel is secured for sea before it leaves its moorings.
- c. Checking all deck equipment for operating condition.
- d. Stowing mooring lines and fenders.
- e. Assigning details and watches, and supervising and assisting crewmen in their assigned duties.
- f. Training deck personnel in shipboard duties, drills, and safety procedures.
- g. Breaking out mooring lines and fenders and preparing the anchor for use.
- h. Leading the crew in ship's drills, including launching and handling lifeboats.

5-21. Communications Chief (MOS 31G40)

The communications chief supervises the communications personnel of the company headquarters of

the heavy boat company which includes two radar repairmen and one radio mechanic. He supervises the installation, operation, and maintenance of the unit communications system which includes field telephone, field radio, and visual communications. He is also responsible for coordinating the unit communications system with that of higher and adjacent units and training unit personnel in radio operations.

5-22. Landing Craft Operator (MOS 61B30)

a. The landing craft operator, commonly called a coxswain, is the enlisted master of the landing craft, mechanized (LCM). As such, he commands the craft and has all the responsibilities of command. His command responsibilities include the operation of the craft, proper maintenance of the craft and its equipment, training and discipline of the crew, and strict enforcement of all safety measures. The coxswain also is responsible for—

(1) Inspecting the boat thoroughly each day to assure that it is ready for use in all respects.

(2) Knowing the rules of the road and the rules and regulations governing operations in a particular locality.

(3) Knowing the buoy systems within the assigned operating area and the United States buoyage system (Coast Guard Publication 193).

(4) Caring for all boat gear and equipment.

(5) Assuring that the craft is properly and securely loaded.

(6) Making certain that the crew observes all safety precautions, including the wearing of life-jackets when underway.

(7) Knowing and using visual and radio communications procedures and signals appropriate to the operation of his craft.

(8) Familiarizing himself with the area of operation.

(9) Acquiring the latest weather, hydrographic, and navigational data available including charts and soundings of the area of operation.

(10) Knowing the compass course(s) to steer in the event of limited visibility.

(11) Directing and controlling the ramp operation.

(12) Insuring that the unit SOP's are complied with.

(13) Keeping records and making reports on the condition of the craft, making log entries, and completing dispatch tickets.

(14) Supervising operator maintenance and repair work of the crew.

(15) Supervising the proper securing of the craft after operation.

b. When serving on the LCU, the landing craft operator serves in the capacity of a mate with his principal duty as chief helmsman. As such he assists the master in the pilothouse in adverse weather, in confined waters, or at any other time the master requires his services. (See also the first mate's duties in paragraph 5-19.)

c. For a complete guide covering all aspects of landing craft operations, see TM 55-501.

5-23. Amphibian Operator (MOS 61D20)

The amphibian operator on the LARC-5, -15, and -60 is responsible for its operation (see TM 55-501), operator maintenance, and administration. The senior operator on each lighter is responsible to the unit supply officer for the LARC and all property issued to it. In meeting his responsibilities the operator must do the following:

a. Inspect the lighter each shift or daily to assure that it is in good operating condition and is properly equipped to perform assigned missions.

b. Perform crew maintenance aided by the crewman (assistant operator) and prepare maintenance records in accordance with TM 38-750.

c. Report to his section and/or platoon sergeant any maintenance requirement beyond the capability and record maintenance support requested on DA Form 2404 (Equipment Inspection and Maintenance Worksheet).

d. Enforce safety precautions contained in the unit SOP.

e. Supervise the loading, securing, and unloading of cargo and the embarking and debarking of personnel.

f. Familiarize himself with maps and charts of the local area with the courses to and from the ship's anchorages, and with the main and alternate land routes to and from the cargo transfer points; make appropriate notes and sketch maps for further guides.

g. Maintain continual check of compass deviations on known magnetic courses.

h. Thoroughly understand and comply with the inland and international rules of the road, and any special rules or procedures used in the operation area (Coast Guard Publication 169).

i. Be familiar with and operate according to the buoyage system within the assigned operating area and with the United States buoyage system (Coast Guard Publication 193).

j. Be thoroughly familiar with the use and meaning of international code flags (single flag hoist), voice radio procedures, and semaphore and blinker signal codes and procedures to effect and read signals containing operational instructions.

k. When underway, remain in position behind the steering wheel.

l. Prepare daily the Equipment Daily or Monthly Log (DA Form 2408-1).

5-24. Senior Marine Engineman/Marine Engine Mechanic (MOS 61C20)

This individual on the LCM-8 is the chief engineer and as such is responsible for the proper operation and organizational maintenance of the engines and repair of all onboard machinery (TM 55-509). The marine engine mechanic assists the senior marine engineman in duties as assigned. He is responsible for the requisitioning and storage of the required stock of tools, spare parts, and materials for machinery operation and maintenance. He maintains records of spare parts showing the quantity of parts authorized, on hand, and stowage location. He prepares and submits work orders and specifications for repair beyond the capabilities of his engine department. He maintains a record of all operations, maintenance, and repairs to equipment in the vessel logbook required by TM 38-750. With the aid of his enginemen, he stands a watch at the engine control levers while underway and operates the anchor winch (LCU only) and ramps when beaching.

5-25. Senior Amphibian Engineman (MOS 61E20)

The senior amphibian engineman in the light and medium amphibian companies is assigned to the unit's maintenance section, but in the heavy amphibian team, he serves as a member of the LARC-60 crew. He has basically the same responsibilities as the senior marine engineman in paragraph 5-24 above. In general, he must be able to adjust, service, and troubleshoot the electrical, hydraulic, mechanical, and fuel systems and replace malfunctioning items. He must also understand the method and forms used to obtain repair parts. This includes the completion of—

a. Exchange Tag (DA Form 2402) when exchanging a defective item for an operational one.

b. Request for Issue or Turn-In (DA Form 2765) when the item must be turned in and a new item ordered.

5-26. Crewman (MOS 61B20)/Seaman (MOS 61A10)

Working under the supervision of a landing craft operator or amphibian operator the crewman/seaman acts as a lookout, stands wheel watch, handles lines when tying up alongside piers or other vessels, and performs deck duties as as-

signed. The seaman is an apprentice training for progression through the marine career field. A crewman is a step above the seaman, having a little more training and experience. Both should have a thorough knowledge of marlinspike seamanship such as knots, splices, and care of lines and the procedures used in the operation of the landing craft or amphibian to which assigned.

CHAPTER 6

MISSION OPERATIONS

6-1. General

Water transport equipment is required to transfer and transport men and materiel in logistics over-the-shore (LOTS), amphibious, port terminal, inland waterway, and riverine operations. Many different skills and types of water transport equipment (tugs, barges, floating cranes, landing craft, and amphibians) are required to carry out these operations. FM 55-50 covers Army water transport operations in detail, with this chapter providing an introduction to the type mission operations water transport units participate in and to the role played by the various watercraft.

6-2. Logistics Over-the-Shore Operations

A LOTS operation involves the loading and unloading of ships without the benefit of fixed port facilities in friendly or nondefended territory and in time of war during phases of theater development in which there is no opposition by the enemy. These operations may be conducted from ship to shore or from shore to shore. LOTS operations may be instituted to supplement or increase tonnage capabilities of an existing terminal made untenable by enemy action, to relieve congested lines of communications, or to reduce the land transportation required to support combat forces. In general, the role of watercraft employed in LOTS operations is described below.

a. Amphibian Role. The normal role for amphibians in LOTS operations is transporting general cargo, small vehicles, and heavy equipment over dispersed beach sites to beach transfer points located as close behind the beach as practicable. The greatest advantage of using amphibians in LOTS operations is when sandbars and outlying reefs restrict the use of landing craft, when entrances and exits to the beach are limited, and when transfer of cargo to trucks on the beach is impractical.

b. Landing Craft Role. Landing craft (both landing craft, mechanized, Mark VIII (LCM-8's), and landing craft, utility (LCU's)) are used in

LOTS operations when the beach area available is satisfactory as to surf, gradient, tide, and bottom to enable the landing craft to beach and retract; is of sufficient area to effect transfer operations on the beach; and where an adequate number of exits from the beach to discharge areas for land transportation exists. In a LOTS discharge operation using landing craft, the beach area operation requires the closest attention and greatest amount of supervision to prevent cargo congestion on the beach itself.

c. Harbor Craft Role. Landing craft and amphibians play the major role in LOTS operations; however, harbor craft, to include tugs with cargo barges, self-propelled barges, and freight supply vessels, may also be used in beach operations where sectional steel piers and ponton causeways have been constructed. They may also be used to tow disabled landing craft and amphibians and are used in salvage and refueling operations.

6-3. Amphibious Operations

An amphibious operation is an attack launched from the sea by naval and landing forces embarked in ships or craft involving a landing on a hostile shore to gain a lodgment area from which to carry out further combat operations ashore, to obtain an advanced air or naval base area, or to deny the use of seized positions to the enemy.

a. Amphibian Role. Transportation amphibian companies employed in amphibious operations are attached to and train with an engineer amphibious unit providing the shore party nucleus to the landing force. When the amphibious operation is completed and the shore party dissolved, the amphibian units are attached to a transportation terminal battalion or group for participation in subsequent LOTS operations. The amphibians are not normally employed in the early assault waves of the amphibious operation because of their slow water speed and lack of armor protection. They are usually preloaded with oncall priority supplies and debarked from transport vessels and lie-to at desig-

nated control points as floating dumps, or they may remain aboard landing ships until ordered ashore by the control officer at the request of the shore party commander.

b. Landing Craft Role. Landing craft of the medium and heavy boat companies are employed as ship-to-shore movement means in an amphibious attack to supplement naval landing craft. Landing craft are essential for the landing of armor and heavy equipment early in the assault before landing ships, tank (LST's) can be brought to the beach. After the initial assault, landing craft are required for the continued movement of units and cargo from ships to landing beaches. The LCM-8 and LCU can land the heaviest items of equipment in the infantry and armored divisions.

c. Harbor Craft Role. Harbor craft can be used to fuel and tow stranded amphibians and landing craft during ship-to-shore and shore-to-shore movements.

6-4. Port Terminal Operations

Port terminals are developed shoreside installations varying in size from deep draft complexes to small, shallow draft, one- or two-wharf facilities. The deep draft complexes may contain several wharves, anchorage areas, shore-based cranes, drydocking facilities, cargo sheds, sorting and in-transit storage areas, and rail sidings. Whereas the small, shallow draft facilities usually provide minimum provisions for cargo handling, storage, and clearance at which passengers and/or cargo are transshipped between oceangoing ships and land transport equipment.

a. Amphibian Role. Transportation amphibians are most effectively employed when discharging cargo ships in the stream and transporting cargo across beaches to beach transfer points. They may, however, be employed in a port terminal operation to expedite discharge or relieve terminal congestion by receiving cargo from the offshore side of the vessel and moving it to a storage site across a beach or up a specially constructed ramp for amphibians.

b. Landing Craft Role. Landing craft provide lighterage support in a port terminal operation. The landing craft may receive cargo from the pier or a lighterage wharf and transport it to a selected LOTS site or storage area outside the immediate terminal area.

c. Harbor Craft Role. In a port terminal operation, harbor craft are used to assist in mooring and unmooring ships, to augment lighterage or pier side operations by providing barges and towing services, to shift and operate floating cranes used to make heavy lifts in harbors and adjacent areas within the terminal operational area, and for command and

control purposes. Tugs or specially equipped craft are used for fire prevention and control.

6-5. Inland Waterway

An inland waterway in a theater of operations is normally operated as a complete system involving—singly or in combination—rivers, lakes, canals, or intracoastal waterways and two or more water terminals. These waterways are normally used for civilian traffic but they can be used for military traffic when civilian use of the waterway has been suspended or limited. Inland waterways can be used to relieve the pressure in other modes of transportation and are especially useful for moving a large volume of bulk supplies and heavy, outsize items not easily transported by other means. Amphibians, landing craft, and harbor craft may all be employed in inland waterway operations. The number and type required will depend on the mission and the physical aspect of the waterway system such as channel depths, widths, and wharfage areas.

6-6. Riverine Operations

Riverine operations are those conducted in a land environment dominated by water lines of communication (LOC). They are not just another aspect of an amphibious operation. A riverine operation is distinct in that, in this type of environment, it requires continuous use of specialized watercraft, equipment, and techniques, and is concerned with sustained land combat operations.

a. Riverine Environment. A riverine environment is characterized by a water LOC, possibly several major rivers and tributaries, or an extensive network of minor waterways, canals, and irrigation ditches. Suitable roadnets are not always available, and suitable land for bases, airfields, and artillery firing positions are often lacking. A solution to the shortage of land areas for bases is to use naval ships and barges as floating bases capable of moving to areas of operations and providing suitable launching points and logistic bases for waterborne operations.

b. Organization. By the nature of the operations, riverine operations are joint operations undertaken primarily by Army and Navy forces. The composition of the force will be determined by the assigned mission, the characteristics of the area of operations, and the enemy capability. A joint riverine task force is composed of land forces, naval forces, and tactical air forces.

(1) The land forces are composed of Army and/or Marine Corps forces, providing a balanced force of maneuver and support elements.

(2) The Navy forces provide a floating base of

operations, combat and combat service support, and surface support to the land force element.

(3) The tactical air forces provide interdiction, close air, reconnaissance, and other related air support functions as required.

c. Watercraft Role. The US Army units supporting the land force or operating in the area may include transportation boat and amphibian companies. The support provided may be both combat support and combat service support.

(1) *Combat support.* When so employed, watercraft provide combat support for normal artillery movement in the riverine environment because barge-mounted artillery is one of the best methods of providing fire support during riverine operations. LCM-8's are employed to tow barges transporting two 105-mm howitzers, ammunition, and guncrews into firing position to support combat operations. LCM-8's are also used to displace the barges to alternate firing positions.

(a) Additional LCM-8's provide waterborne facilities for the artillery such as a command post, fire direction center, aid station, battery command post, ammunition resupply, and a damage control vessel.

(b) Other watercraft at the firing position normally consist of LCM-8's with 155-mm howitzers mounted on deck, a command and control boat, a helicopter barge, and refueler.

(c) The 155-mm, self-propelled howitzer can be mounted on the LCM-8 deck and fired from the LCM-8 while in the stream or while beached. This combination eliminates a requirement for additional boat space as prime movers.

(2) *Combat service support.*

(a) An LCM-8 may also be used as a refueler for Army assault boats, outboard motors, and motor vehicles. A 500-gallon collapsible tank provides a flexible means of storing and transporting MOGAS and diesel fuel aboard the LCM-8. The 600-gallon metal tank may also be used.

(b) Watercraft may also be used for ammunition resupply and mess resupply in a combat service support role in the riverine environment from land and floating bases to operations launched from these bases.

d. Administrative and Logistic Support. Each service is responsible for administrative and logistic support of its component forces. Forces stationed on either a floating or a land base receive support initially from combat service support installations outside or on the periphery of the riverine area. As suitable areas become available, combat service support installations are established within the riverine area.

e. Special Planning Considerations. In planning for the use of watercraft in riverine operations, the following should be considered:

(1) Small streams may be navigable only at high tide.

(2) Tides and currents are frequent determinants of the speed of advance.

(3) Care must be taken in beaching of boats, as a rapidly receding tide may prevent rapid retraction from the beach or even cause complete grounding.

(4) The maximum radius of operation from the mobile riverine base should not exceed 40 kilometers (25 miles).

(5) Plans must be made for clearance of water mines and for defense against shore fire.

(6) Landing craft should not be anchored side by side while in hostile waters. Side by side anchoring provides an enemy with the opportunity to damage or sink two vessels with one charge or round.

6-7. Salvage Operations

Various types of watercraft participate in salvage operations with the main objective to keep the beaches and sea approaches in the operational area clear. This includes freeing stranded or disabled craft and clearing underwater obstructions blocking the sea approaches.



CHAPTER 7

MAINTENANCE

7-1. General

Maintenance is a command responsibility. Commanders should insure that all resources at their disposal are in a constant state of readiness. The unit commander is responsible for the dissemination of instructions for authorized maintenance services within the company. He should make certain that the instructions and procedures are complied with and that authorized maintenance materials are available at all times. Supervisors should make certain that personnel under their jurisdiction are trained in proper preventive maintenance procedures and that these procedures are carried out. The key to good maintenance management is the Army maintenance management system. The records involved in this system provide the facts essential for evaluation and decision at all levels of command. The equipment records are designed so that they may be used by any unit any place in the world regardless of the kind of equipment.

7-2. Terminology

The precise use of maintenance terminology in military publications and in all forms of communication is essential to a common understanding of maintenance management concepts. Some of these terms, not explained elsewhere in this chapter, are discussed below.

a. Maintenance Management. This term signifies the application of management techniques to materiel maintenance. It includes the judicious use of resources and the control and review of maintenance programs to accomplish the maintenance objectives.

b. Maintenance Standards. This term signifies the qualitative and quantitative descriptions and physical characteristics of measures prescribed for repair, overhaul, or rebuild of equipment. Maintenance standards specify the scope of operations, materials used, time, workmanship, methods, practices, work precautions and safety, modifications, tolerances, equipment performance or functioning,

and other factors which regulate maintenance operations.

c. Mission Essential Materiel. Mission essential materiel is that materiel assigned to strategic, tactical, general purpose, or defense forces which is to be employed by such forces to destroy the enemy or his capacity to continue war; to provide battlefield protection of personnel; to communicate under war conditions; to detect or locate the enemy; and to permit contiguous combat transportation and support of men and materiel.

d. Repair Limit. This term signifies the allowable cumulative or one-time dollar expenditure which may be made in the maintenance of equipment. It is based on economic considerations which relate equipment life expectancy to repair and replacement costs (TB 750-97-19/20).

e. Overhaul. Overhaul consists of that maintenance necessary to restore an item to a completely serviceable condition as prescribed by maintenance serviceability standards.

f. Rebuild. Rebuild consists of restoring an item to a standard as nearly as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and specifications, and subsequent reassembly of the item.

g. Lubrication. Lubrication orders (LO) are illustrated, waterproofed, numbered, and dated cards or decals that prescribe approved organizational maintenance lubrication instructions for mechanical equipment issued to an organization. These LO's are kept with or attached to the equipment to which they pertain. They set forth mandatory instructions. The company commander is responsible for obtaining, installing, and complying with all current LO's that apply to the equipment in his company. (See DA Pam 310-4 for an index of LO's.)

h. Modification Work Order. A modification work

order (MWO) prescribes modifications that must be made on materiel to improve its operating efficiency or safety of its operators and/or improvement of equipment life. An MWO indicates the procedure to be followed in performing the required modification and is sufficient authorization for requisitioning the necessary parts. Alterations required by an MWO range from the very simple that may be accomplished at the using organization to the very complex that may have to be done at a general support or depot maintenance facility. (See DA Pam 310-7 for an index on MWO's.) MWO's will provide the following information:

- (1) Type of materiel to be modified.
- (2) Category of maintenance (AR 750-1) permitted to make the modification.
- (3) New parts and number of man-hours required for the modification work.
- (4) Date when the modification must be completed.

i. Repair Parts. Repair parts are any parts, sub-assemblies, assemblies, or components required for installation in the maintenance or repair of an item, subassembly, or component. Repair parts, authorized organizational stockage list, and prescribed load list are allocated by appropriate technical manuals to organizational, direct support, and general support activities. Table of organization and equipment (TOE) direct support maintenance activities supply repair parts to their supported unit's TOE. Each organization and each vessel are authorized a prescribed load list of parts to make repairs. Repair parts aboard floating craft are classified into two groups.

(1) *Onboard repair parts.* Onboard repair parts are those repair parts physically carried on board the vessel. Onboard repair parts will be carried physically aboard Army floating equipment at all times, in storage and in service, and should be requisitioned as items are used.

(2) *Initial repair parts support.* Repair parts support is defined as those repair parts required in addition to the onboard repair parts to support the replacement needs of the vessel until replenishment is established through normal supply channels.

7+3. Categories of Maintenance

Maintenance operations are divided into four categories to relate maintenance to other military operations and to provide a basis for identifying organizations for maintenance operations in the Army. The division of maintenance operations into categories also facilitates the assignment of maintenance responsibility to specific levels of command and per-

mits the orderly and efficient distribution of maintenance personnel, tools, repair parts, and facilities. The four categories of maintenance prescribed for Army watercraft in AR 750-1 are organizational, direct support, general support, and depot maintenance.

a. Organizational Maintenance. All Army water transport units are responsible for organizational maintenance to keep equipment at a required level of operational readiness. Organizational maintenance includes both preventive maintenance, that is, stopping failures before they start, and the organizational level repairs authorized in the appropriate technical manuals for each item of equipment. Unit commanders should refer to DA Pam 750-1, Preventive Maintenance Guide for Commanders; TM 55-503, Marine Salvage and Hull Repair; and TM 55-506, Marine Electrical and Refrigeration Equipment, for assistance.

(1) *Vessel crews.* In water transport units, organizational maintenance is performed by the vessel crew (operator and marine or amphibian engineer), assisted by the organization mechanics. Vessel crew maintenance varies according to the type of craft and the maintenance allocation chart (MAC) in the appropriate technical manual for the specific end item of equipment. The MAC assigns the various maintenance functions to the maintenance categories. Normally, the two- or three-man crew of a small vessel is capable of greasing, oiling, cleaning, and making minor adjustments. The crew of a large vessel is capable of making major repairs. Crew maintenance will also consist of chipping, scraping, cleaning, and painting vessels above the deep-load waterline.

(2) *Organization mechanics.* Work requiring a greater skill than that possessed by the vessel crew is performed within the company by trained mechanics and specialists. They have available to them various types of tools, test equipment, and repair parts. Organization mechanics replace minor parts and subassemblies and perform periodic inspections and services. They are also required to inspect and assist with preventive maintenance performed by the vessel crew. Repairs beyond the capability of organization mechanics become the responsibility of the next higher maintenance category—direct support maintenance. Using units are responsible for delivering unserviceable equipment to the direct support unit when it is within their capabilities. Otherwise, assistance in the form of a mobile repair team, for example, may be requested from the supporting direct support unit.

b. Direct Support Maintenance.

- (1) *General.* Direct support maintenance is the

category of maintenance normally authorized for and performed by designated TOE or tables of distribution and allowance (TDA) maintenance activities in direct support of using water transport organizations. Certain water transport units are given the responsibility by TOE to perform direct and also general support maintenance on task equipment. These responsibilities are indicated in the capabilities paragraph of the respective unit TOE. Direct support maintenance is normally limited to repair of end items, components, and assemblies on a return to user basis.

(2) *Transportation lighterage maintenance company, direct support (TOE 55-158).* This company provides direct support maintenance and receives, stores, and issues all repair parts required for organizational and direct support maintenance of transportation amphibians and landing craft. The unit is normally assigned to the materiel command of the theater army support command (TASCOM) and, as required, further attached to a transportation terminal battalion or group for operational control. It is located in the rear of a beach complex where amphibians and landing craft are employed in logistic beach operations. Contact teams may be organized and sent to a unit for onsite repair of a disabled craft. If the situation requires, detachments may be provided by the direct support lighterage company for amphibian units dispatched to remote areas on special missions. When so employed the supported unit must provide mess and administrative support; however, the direct support contact team remains under the operational control of its parent unit.

(3) *Team ID, lighterage maintenance team (direct support).* This team, organized under TOE 55-550, in addition to augmenting the capability of the direct support company, may be used as a contact maintenance team as stated in (2) above.

c. General Support Maintenance.

(1) *General.* General support maintenance is that maintenance authorized to be performed by designated TOE and TDA organizations in support of the Army supply system. Repaired items are normally returned to stock. General support maintenance normally requires a higher degree of skill than direct support maintenance or is so time-consuming as to preclude expeditious repair at direct support level. Whereas most direct support maintenance consists of replacement and/or repair of defective components or assemblies, the bulk of general support maintenance involves the repair or overhaul of these items.

(2) *Transportation floating craft general support maintenance company (TOE 55-157).* This

company provides general support maintenance and supply for Army floating craft—amphibians, landing craft, and harbor craft. The unit is assigned to the materiel command of TASCOM. Normally, it is further attached to the transportation terminal group or brigade, as required, which it supports because the company has a single unit support function for the watercraft units. Based on the operating conditions of the area of operations, shore-based facilities may be established if required; however, the bulk of the unit's work is accomplished aboard a 210-foot nonself-propelled floating machine shop. The floating machine shop contains all of the shop facilities necessary to support the company mission. In addition to its mission of providing general support maintenance for all floating craft located within the area of responsibility, the general support company provides direct support maintenance for all the harbor craft operating in the same area. It also provides repair parts for organizational maintenance to those units being provided direct support maintenance. Emergency contact teams may be organized from the general support company and transported by landing craft, mechanized, Mark VIII (LCM-8) to outlying terminals to make onsite repair.

(3) *Team IC, floating craft maintenance team (general support).* This team, organized under TOE 55-550, may provide augmentation capability to the direct support company or provide direct support and general support maintenance as a contact team for isolated watercraft units.

d. *Depot Maintenance.* Depot maintenance is the highest category of materiel maintenance. It consists of scheduled drydocking, scheduled overhaul, and unscheduled repairs or modifications beyond the capabilities of general support maintenance units. Depot maintenance may be accomplished by a continental United States (CONUS) depot maintenance activity, through an interservice support agreement with the US Navy, or under commercial contract by an industrial facility. AR 750-1 prescribes the periodic drydocking cycles of watercraft in active service. This includes the vessel being hauled out, bottom cleaned, and painted up to the deepload waterline in accordance with the instructions provided in TB 740-93-4.

7-4. Equipment Records Management

a. *General.* There are two publications that establish the forms and equipment record procedures for watercraft: TM 38-750, The Army Maintenance Management Systems (TAMMS), and TB 55-1900-200-20/1, Watercraft Maintenance Reports. The forms prescribed in these publications record the operation, maintenance, and historical

[illegible]

Types of water transport

Forms used—each craft	LARC-5	LARC-15	LARC-60	LCM-8	LCU	BDL	Deck cargo barge, nonpropelled	Picket boat, 46-foot	Deck or liquid barge, 120-foot nonpropelled	Harbor tug, 45-foot	Refrigerator barge, nonpropelled	Harbor tug, 65-foot	Barge crane, 68 STON'a	Barge crane, 100 STON'a	Harbor tug, 100-foot	Ocean-going tug, 126-foot	Dry or refrigerated cargo barge, 210-foot
DA Form 2404, Equipment Inspection and Maintenance Worksheet ²	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
DA Form 2405, Maintenance Request Register ²					X	X						X	X	X	X	X	
DA Form 2406, Materiel Readiness Report ²	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)												
DA Form 2407, Maintenance Request ²	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
DA Form 2407-1, Maintenance Request—Continuation Sheet ²	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Logbook Binder ³	X	X	X														
DA Form 2408, Equipment Log Assembly (Records) ³	X	X	X														
DA Form 2408-1, Equipment Daily or Monthly Log ³	X	X	X														
DA Form 2408-5, Equipment Modification Record ³	X	X	X														
DA Form 2408-7, Equipment Transfer Report ³	X	X	X	X	X												
DA Form 2408-8, Equipment Acceptance and Registration Record ³	X	X	X	X	X												
DA Form 2408-9, Equipment Control Record ³	X	X	X	X	X												
DA Form 2408-10, Equipment Component Register ³	X	X	X														
DA Form 2408-14, Uncorrected Fault Record ³	X	X	X														

¹ Operational records.² Maintenance records.³ Historical records.⁴ Used at discretion of unit commander.⁵ Commanders submit consolidated form of reportable items of equipment per appendix C, TM 38-750.

data for the management of the Army watercraft fleet. TM 38-750 and TB 55-1900-200-20/1 provide water transport unit commanders with the procedures for the use and preparation of these forms, records, and reports.

(1) *Organizational use.* Within the unit itself, the records are a maintenance tool for the commander. The information contained in these records permits the commander to properly evaluate such factors as—

- (a) Equipment operations.
- (b) MWO's required and applied.
- (c) Equipment availability.
- (d) Equipment failure frequency.
- (e) Repair parts requirements.
- (f) Unit materiel readiness.
- (g) Equipment shortcomings and deficiencies.
- (h) Support requirements.

(2) *Field commands and national agency use.* The records provide most of the data forwarded to field commands and national agencies for evaluation and planning purposes affecting maintenance resources, policies, and requirements.

b. *Records.* Not all of the forms—operational, maintenance, or historical—prescribed in TM 38-750 and TB 55-1900-200-20/1 are required for any one piece of equipment. The fact that a form is not prescribed for a specific item of equipment, however, does not exclude its use for controlling the operation and maintenance of the item when required. For the specific forms prescribed for each watercraft, see table 7-1.

(1) *Operational records.* Operational records provide the means for an organization to control its operators and equipment, to plan its operations, and to insure the optimum use of its equipment. TM 38-750 specifies their use only for amphibians. Detailed instructions for the preparation and use of the operational records listed below are contained in TM 38-750.

(a) *Equipment Utilization Record (DA Form 2400).* This form provides a record for the control of equipment utilization, in a chronological sequence, when the equipment logbook is not used.

(b) *Organizational Control Record for Equipment (DA Form 2401).* This form provides a ready identification as to the user and location of equipment while on dispatch or in use.

(2) *Maintenance records.* Maintenance records are established to control maintenance scheduling, inspection procedures, and repair workloads. These records, applicable to all watercraft, are used in determining the current status of equipment readi-

ness, reliability of equipment, and use of equipment. Certain records are designed to permit prompt analysis of causes of equipment failures, mortality rates of components, and supply support requirements. Detailed instructions for the use of these records are contained in TM 38-750. Equipment maintenance records include the following:

(a) *Exchange Tag (DA Form 2402).* This form has a threefold purpose: for direct exchange of an item in accordance with AR 711-2, as an identification tag for equipment improvement recommendations (EIR's), and as warranty claim exhibits.

(b) *Preventive Maintenance Schedule and Record (DD Form 314).* This form provides a means for recording scheduled and performed maintenance services required at the organizational maintenance level, and also provides data for readiness reporting.

(c) *Equipment Inspection and Maintenance Worksheet (DA Form 2404).* This form provides standard procedures to record equipment faults as a result of inspections, maintenance services, diagnostic checkouts, equipment serviceability criteria (ESC) checks, technical evaluations, and the maintenance assistance and instruction team (MAIT) program.

(d) *Maintenance Request Register (DA Form 2405).* As the name implies, this form provides for a consolidated record of all job orders (DA Form 2407 and/or DA Form 2410) generated, received, and processed by maintenance activities.

(e) *Materiel Readiness Report (DA Form 2406).* This form provides Department of the Army staff and commanders at all levels information as to the readiness status of equipment in the hands of using organizations. The materiel readiness report along with the unit readiness report (chap 11) provides the commander with a yardstick by which to measure the readiness posture of his unit and the means of reporting the results of this measurement.

(f) *Maintenance Request (DA Form 2407) and Maintenance Request—Continuation Sheet (DA Form 2407-1).* This form, with continuation when required, is used to request general support and direct support maintenance or modification, to report MWO accomplishment, to report support maintenance actions, to submit EIR's, and to report receipt of defective material not due to damage in shipment.

(3) *Historical Records (TM 38-750).* The equipment log prescribed by TM 38-750 is the historical record for a specific item of equipment. It is a control device for the mandatory recording of events during the life cycle of the item including

receipt, operation, condition, maintenance accomplished, modification, and transfer. This record begins at the time an item is delivered by the manufacturer. The record is permanently identified with the item until the item is finally "washed out" of the Army inventory. The most important use of the equipment log is to provide commanders with up-to-date information concerning the readiness of the item of equipment to which the log applies. Detailed instructions for the application, preparation, and use of the equipment log records are contained in TM 38-750. Only the records that are applicable to the specific item will be a part of the equipment log. The forms that make up the equipment log include the following:

(a) *Logbook binder*. The equipment logbook binder contains the forms prescribed for each specific item of equipment by TM 38-750. When complete with the required forms, it becomes the logbook. The logbook must be with the equipment when the equipment is operated, serviced, repaired, modified, or transferred. The equipment log is a control device for mandatory recording of events during the life cycle of equipment. This procedure begins at the time of delivery of the equipment by the manufacturer and is permanently identified with the item of equipment until it is finally "washed out" of the Army inventory. The equipment log will be reconstituted only in the event of loss or when damaged to the extent that data entered therein are illegible. The damage, loss, or destruction of this log as a result of negligence may be cause for disciplinary action.

(b) *Equipment Log Assembly (Records) (DA Form 2408)*. This form provides a ready reference as to assembly instructions and symbols to be used in equipment logs. One DA Form 2408 is inserted in the front of the equipment log and becomes a part of the permanent book.

(c) *Equipment Daily or Monthly Log (DA Form 2408-1)*. This form is used to record data daily pertaining to the operation of equipment. It also provides a recapitulation of data at the end of the month and becomes a permanent historical record of maintenance data in the equipment logbook.

(d) *Equipment Modification Record (DA Form 2408-5)*. This form records the requirement for and the application of all authorized modifications of the equipment. It provides commanders with a record of MWO's required and accomplished.

(e) *Equipment Transfer Report (DA Form 2408-7)*. This form provides a means of recording and reporting the transfer of equipment from one property account to another, and gains and losses to the Army's inventory. If the form is used to report

the change of a federal stock number, two forms must be prepared; one to report the loss, the other to report the gain of the new number. Separate forms are prepared for each item of equipment having a different line item number.

Note. This form will be retained in the logbook and replaced upon the preparation of a DA Form 2408-9 to record the transfer, usage, loss, gain, or overhaul/rebuild of the item as an action or report occurs.

(f) *Equipment Acceptance and Registration Record (DA Form 2408-8)*. This form provides for the introduction of equipment data into density files for application into maintenance management and provides the equipment owner with a basic information source. The form is filled out at the time the item of equipment is accepted into the inventory.

Note. This form will be retained in the logbook as the permanent basic historical record of the item and will be replaced by DA Form 2408-9 only in the event of mutilation, deterioration, loss, or other condition arising that will necessitate a new form.

(g) *Equipment Control Record (DA Form 2408-9)*. This form replaces DA Form 2408-7 and DA Form 2408-8. It provides maintenance managers at all levels with the means of obtaining initial basic equipment acceptance and identification information for selected items in the Army inventory. It also provides the means for updating information on ownership, location, usage, transfers, gains, losses, overhaul and rebuild, and disposition.

(h) *Equipment Component Register (DA Form 2408-10)*. This form is a multiuse form. It provides watercraft with a component replacement record and may be used as an index of logbooks when multiple logs are maintained under the cover of one logbook.

(i) *Uncorrected Fault Record (DA Form 2408-14)*. This form provides a record of uncorrected faults and deferred maintenance actions on Army equipment.

(4) *Historical records (TB 55-1900-200-20/1)*. All watercraft, except amphibians, are required to maintain as historical records (required by TB 55-1900-200-20/1), certain 55-series forms that are of exclusive interest to marine maintenance managers. These forms provide structural characteristics of vessels, engine data, and other information of interest to support maintenance levels. Detailed instructions for the use of the 55-series historical records listed below are contained in TB 55-1900-200-20/1.

(a) *Floating Equipment Data, General Characteristics (DA Form 55-26)*. This form provides a means of recording structural characteristics of US Army vessels. All entries must be typewritten and a

current DA Form 55-26 will remain aboard the vessel at all times. An 8- by 10-inch photograph must be submitted within 7 working days to the appropriate command when a modification is made to a vessel or to a major item of onboard equipment which makes the data or current photograph record file obsolete. Photographs are required only when changes materially affect the vessel's external appearance.

(b) *Floating Equipment Data, Engine Data (DA Form 55-27)*. This form (a supplement to DA Form 55-26) provides a means of recording current engine data for vessels assigned to and used by the US Army.

(c) *Floating Equipment Data, Boiler Data (DA Form 55-28)*. This form (a supplement to DA Form 55-26) provides a means of recording boiler data for vessels assigned to and used by the US Army.

(d) *Floating Equipment Data, Miscellaneous Machinery (DA Form 55-29)*. This form is used as a record of current data for machinery such as capstans, steering engines, windlasses, winches, refrigeration units, blowers, and compressors.

(e) *Floating Equipment Data, Pump Data (DA Form 55-30)*. This form is used to record current pump data. A new form is submitted each time pump data are changed, making the previously submitted data obsolete.

(f) *Floating Equipment Data, Electrical Equipment (DA Form 55-31)*. This form provides a means of recording electrical equipment data for vessels assigned to and used by the US Army, except electronic equipment used in navigation.

(g) *Harbor Boat, Deck Department Log for Class A and B Vessels (DA Form 55-40)*. This form provides a legal document which is a complete and accurate record of the action and condition of the vessel and the action aboard and concerning the vessel. It is used only on category A and B vessels in conjunction with DA Form 55-44.

(h) *Deck and Engine Log (DA Form 55-42)*. A combination log for both the deck and engine departments, DA Form 55-42 provides a record of operation on all watercraft 65 feet and under, except amphibians.

(i) *Harbor Boat Engine Department Log for Class A and B Vessels (DA Form 55-44)*. DA Form 55-44 provides a historical record of the machinery of category A and B vessels. It is used in conjunction with DA Form 55-40.

(j) *Floating Equipment Data, Electronic Equipment (DA Form 55-186)*. This form provides a means of recording current data on electronics

equipment on board US Army watercraft. It is a supplement to DA Form 55-26.

7-5. A Basic Preventive Maintenance Program (TB 55-1900-202-12/1)

The Army system of preventive maintenance is based on frequent inspections and services performed by vessel crews and organizational maintenance personnel. An understanding of the services, intervals, and areas of responsibility of organizational maintenance personnel (chap 5) is essential to a sound and effective unit preventive maintenance program.

a. *Preventive Maintenance Intervals*. Preventive maintenance for watercraft can be effective only when it is properly scheduled and rigidly controlled; therefore, a schedule of periodic services must be established. These periodic preventive maintenance services are categorized as *daily* services and *scheduled* services. The principal criterion for the frequency of scheduled services is hours of operation of the equipment concerned. A schedule of periodic maintenance services must be established and maintenance performed on watercraft and items of onboard equipment even though the craft may not be operated for extended periods. This is particularly true in the case of large vessels since much of the equipment aboard is in operation daily even though the vessel itself does not leave the wharf. Operations under adverse conditions may require more frequent services, and vessel masters or unit commanders are authorized to reduce these intervals as environmental or operational conditions dictate.

b. *Daily Services*. This is the service required every day before, during, and after equipment operation which is performed by the crew of any given watercraft.

(1) *Before-operation service* is performed each day to insure that the craft is ready in every respect for operation. Minor deficiencies are corrected on the spot and the results are reported to the chief engineer or other person responsible for maintenance of the craft. This service should never be omitted, even in extreme tactical situations.

(2) *During-operation service* is a check of the vessel's condition and performance while it is underway. A test is made to check the operation of each item of equipment and the control devices aboard. All crew members should be alert for signs of potential trouble such as leaks, rattles, knocks, unusual odors, and improper functioning of instruments. If serious trouble develops, the engine must be stopped immediately and deficiencies which

Table 7-2. Daily Preventive Maintenance Services

Before operation	During operation	After operation	Item or area
X	-----	-----	Tampering and damage to craft
X	-----	X	Fire extinguishers
X	-----	X	First aid kit and life preservers
X	-----	X	General appearance
X	X	X	Fuel, oil, and water levels
X	X	X	Accessories and connections
X	X	X	Auxiliary equipment
X	X	X	Leaks
		X	Air cleaners
		X	Filters and strainers
X	-----	-----	Start control
X	X	X	Instruments
X	X	-----	Steering gear and linkage
X	X	X	Load and tarps
X	X	X	Lamps and running lights
X	X	X	Towing connections
X	-----	X	Tools, spare parts, and equipment
X	-----	X	Electrical wiring
X	-----	X	Lubrication (General)
X	-----	X	Batteries
X	X	X	Engine operation and condition
	X	X	Engine controls and drives
X	X	X	Propeller and rudder
X	X	X	Bilge pump
X	X	X	Ramp operation
X	-----	X	Deck machinery

cannot be corrected at once by the crew are reported to the chief engineer or to the master.

(3) *After-operation service* is the basic daily preventive maintenance service for watercraft. Any deficiencies noted during operation are corrected and the vessel is readied for the next day's operation. Items requiring inspection or service while at operating temperatures are attended to as soon as possible after operations cease. As soon as the services are completed, the results are reported to the chief engineer or to the maintenance officer. Table 7-2 lists areas that must be inspected during daily preventive maintenance services. Since the items are general in nature, the checklist may be used by the unit commander to assure that such services are being performed. TB 55-1900-202-12/1 provides the minimum preventive maintenance procedures required for Army floating craft. Where organizational maintenance technical manuals for the specific vessel exist, the provisions of the technical manual will take precedence.

c. *Weekly Services.* The first of the scheduled services are performed every week or after 50 hours of operation, whichever occurs first. The crew of the vessel, under the supervision of the appropriate section leader or chief engineer, performs weekly serv-

ices. See table 7-3 for the items to be serviced during a weekly preventive maintenance service.

d. *Monthly Services.* These services are required every month or after 200 hours of operation, whichever occurs first. The monthly services are performed by the vessel's crew assisted by the organizational maintenance personnel. See table 7-3 for the services to be performed during a monthly service.

e. *Semiannual Services.* These services are required every 6 months or after 1,200 hours of operation, whichever occurs first. Organizational maintenance personnel perform these services and are assisted by the vessel's crew. During these services, particular attention is directed to installation tolerances, wear limits, and adjustments. Detailed maintenance procedures to be followed are spelled out in applicable manufacturer's manuals, pertinent technical manuals, lubrication orders, maintenance allocation charts, and specifications. See table 7-3 for items to be serviced.

f. *Annual Services.* These services are required yearly or after 2,400 hours of operation, whichever occurs first. They are performed by the organizational maintenance personnel assisted by the crew in the same manner as the semiannual. The purpose is to check the adequacy of maintenance performed during the more frequent services.

Table 7-3. Scheduled Preventive Maintenance Services

50-hour	200-hour	1,200-hour	Item
X	X	X	Mountings and vibration dampers
		X	Compression test
		X	Cylinder head and liners
	X	X	Valves and tappets
		X	Pistons
X	X	X	Fuel pump, filters, strainers, and lines
X	X	X	Lubricating oil filters and strainers
X	X	X	Cooling-water pump and strainers
X	X	X	Generator
X	X	X	Voltage regulator
X	X	X	Starting motor
X	X	X	General lubrication
X	X	X	Fuel system
		X	Fuel injectors
X	X	X	Governor
X	X	X	Lube oil system
X	X	X	Heat exchanger
X	X	X	Fresh-water expansion tank and sea strainers
X	X	X	Air intake and exhaust system
X	X	X	Batteries
X	X	X	Auxiliary generators
X	X	X	Air compressor
X	X	X	Air starting system
X	X	X	Clutches and couplings
		X	Reduction gears
X	X	X	Reverse gears
X	X	X	Shafting and stuffing boxes
X	X	X	Instruments and gages
X	X	X	Steering gear
X	X	X	Sanitary water system
X	X	X	Fresh water system
X	X	X	Fire and bilge system
X	X	X	Ventilating system
X	X	X	Heating system
X	X	X	Automatic alarm system
X	X	X	Refrigeration units
X	X	X	Deck machinery
X	X	X	Tools and spare parts
X	X	X	Paint and markings
X	X	X	Ramp operation

7-6. Inspections and Maintenance Assistance

Inspections are an important part of the unit maintenance program and are made at different intervals, for different purposes, and by different agencies and personnel. First, operators check their equipment to detect failures and possible causes of failures. Second, unit officers, noncommissioned officers, and supervisors inspect equipment under their control to insure reliable performance. Third, commanders and staff personnel inspect equipment to determine efficiency of operations, adequacy of resources, and effectiveness of maintenance programs. Fourth, technical personnel in the maintenance shop make periodic inspections prescribed by regulations and also after repairs are made. Fifth, unit commanders and unit maintenance officers

often conduct special inspections to prepare for annual general inspections made by higher commands. Under the proviso of AR 750-51, the MAIT program, unit commanders are provided technical expertise in identifying and solving continuing maintenance problems and in accomplishing the required maintenance with available maintenance resources. The MAIT program may also be augmented, when required, and technical assistance requested under the provisions of AR 700-4, or from the supporting direct support and general support maintenance units and activities as a part of their normal missions.

a. Coast Guard Inspections.

(1) Certain types of Army watercraft in active service in CONUS require inspection by the Coast

Guard and must possess either a certificate or a letter of inspection issued by that agency. AR 750-1 lists those vessels requiring this inspection.

(2) As a rule, a watercraft sailing for an overseas destination under its own power must have either a letter of inspection or a certificate. When a watercraft that normally requires a letter or a certificate is shipped overseas as a deckload or tow, it must meet the requirements of the Coast Guard for the service intended. A watercraft located overseas does not need a certificate or a letter but, as far as practicable, it should be maintained in conformance with pertinent Coast Guard requirements and rules of the American Bureau of Shipping, where they apply. Although watercraft overseas do not have to be inspected either by the Coast Guard or by the American Bureau of Shipping, inspections may be made if desired. The American Bureau of Shipping assigns loadlines and determines the position and manner of marking them on American vessels.

(3) Main, auxiliary, and low pressure heating boilers and unfired pressure vessels on watercraft must also be inspected in accordance with and at intervals indicated by current US Coast Guard Publication (CG 115).

b. Inspections by Crews and Organizational Maintenance Personnel. The crews of floating craft and organizational maintenance personnel make frequent and thorough inspections of the compartments, areas, equipment, and components for which they are responsible to ensure adequate maintenance and safe, economical, and efficient operation. Any recommendations they make for depot maintenance and modification are entered in the logbook and brought to the attention of the maintenance and repair office personnel of the command or installation to which the watercraft is assigned. Watercraft which do not carry crews are inspected by maintenance personnel assigned that responsibility and recommendations are likewise recorded and reported. In making their inspections, these personnel use pertinent publications for guidance, such as technical manuals, technical bulletins, supply manuals and bulletins, and lubrication orders.

c. Maintenance Assistance and Instruction Team (MAIT) Program.

(1) The MAIT program emphasizes maintenance assistance and instruction to provide the unit commander with the means to attain a high state of readiness. It should be emphasized that this is not an inspection, and accordingly, scores and ratings will not be applied.

(2) The MAIT team will make prior informal arrangement with the water transport unit to be visited. The unit commander should provide the team chief with known problem areas, so the team composition can be determined prior to the visit. MAIT team visits to units should be conducted as a minimum at least once annually.

(3) The conduct of the visit will emphasize identifying of problems and provide the "what to do" and "how to do" in the following areas where required:

- (a) Equipment repair and preventive maintenance.
- (b) Equipment condition and serviceability.
- (c) Proper use of tools and test equipment.
- (d) Repair parts supply procedures to include direct exchange.
- (e) Records and reports management.
- (f) Maintenance personnel management and training.
- (g) Publications and proper use.
- (h) Shop layout.
- (i) Production and quality control procedures.
- (j) Introduction of new doctrine and techniques.

(4) Upon completion of the visit, the water transport unit commander is advised by the team chief on recommended follow-on actions to insure logistics readiness program improvement. Actions required to correct deficient areas identified by MAIT, but not within the responsibility or capability of the unit to correct, will be referred to the next higher command where action can be taken to assist the unit.



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CHAPTER 8

PERSONNEL MANAGEMENT AND ADMINISTRATION

8-1. General

From an administration standpoint, a company commander has the task of combining four basic resources to accomplish the company's mission: manpower, materiel, time, and facilities. However, he seldom has the men, materiel, or the time he would like to have to perform this mission. Therefore, his resourcefulness will be taxed in using available facilities to the best advantage. The company commander will find DA Pam 600-8, Military Personnel Office Management and Administrative Procedures, extremely helpful in providing him information regarding personnel policies, actions, and procedures.

8-2. Personnel Actions

The types of personnel actions performed in the company include assignment, reassignment, and change in duty of personnel; promotions; reductions; making out individual sick slips; and submitting recommendations for awards, decorations, and commendations.

a. Assignment, Reassignment, and Changes in Duty of Personnel. The company commander should assign personnel according to their military occupational specialty. However, there may be circumstances when it may be advisable for him to reassign personnel for better use of their skills or for safety, health, and morale reasons. The following are guides for effective use of personnel:

- (1) Try at all times to pick the right man for a specific job.
- (2) Stimulate the individual's desire to produce through adequate incentives.
- (3) Capitalize on the individual's intelligence, aptitude, and interests through the use of a suitable training program.
- (4) Assign essential tasks to individuals; avoid having them perform obviously unnecessary ones.
- (5) Provide individuals an opportunity for professional development through intelligently planned assignments and a progressive rotation of assign-

ments, and keep transfer of crew members to other vessels at a minimum.

(6) Insure that the use of assigned craft's crew for administrative post duties be held to a minimum.

b. Promotions and Reductions. AR 600-200 specifies the authority of the commander to promote or reduce enlisted personnel. Promotions and reductions, depending on how they are handled, can either improve or injure the morale and efficiency of the company. Promotions should not be automatic nor based on partiality, and the commander must be discreet in making or recommending them. Individuals should be made aware of the qualifications and requirements for the next higher grade and should be encouraged to prepare themselves for a more responsible position.

c. Individual Sick Slip (DD Form 689). Serving as a communication medium between the commander, the sick or injured person, and the medical officer, the individual sick slip is used to route men reporting for sick call to a medical facility and to inform their commander as to the disposition of each case. The first sergeant or the company clerk usually prepares the sick slip for the sick or injured individual to carry to the medical facility. It is completed by the medical personnel and returned to the company commander. Although the sick slip is normally initiated at the sick or injured individual's company headquarters, in cases of emergency it may be initiated at the medical facility. It is not a permanent record but is a basis for necessary entries in the morning report. After accomplishment of its purpose, the sick slip is destroyed except when it must be forwarded to the officer exercising special courts-martial jurisdiction for line of duty determination. AR 600-6 prescribes the procedures for preparation and use of the individual sick slip. Where evacuation by Army air ambulance is required, units should request this support using the format shown in appendix J.

d. Awards, Decorations, and Commendations. The commanding officer may recommend company

personnel for awards, decorations, and commendations. His recommendations are prepared according to AR 672-5-1 and submitted to the next higher headquarters. The commander, however, is authorized to award letters of commendation to personnel for outstanding performance in their work, suggestions for improving operations, etc. Copies of these commendations should be filed in the individual's personnel file.

8-3. Recordkeeping

Records kept in the company include duty rosters, policy file, and unit journal and unit history.

a. Duty Rosters. For the purpose of insuring an equitable distribution of duty assignments, Duty Rosters, DA Form 6's, are normally maintained at each company by the first sergeant. Separate rosters will be kept for each duty requiring the detail of individuals. Such duties include kitchen police, guard, charge of quarters, and other recurring details. Whenever practicable, consolidated workday-weekend-holiday rosters may be maintained. Only names of those eligible individuals required to perform the duty will be entered on the roster; names are initially entered at the bottom of the form regardless of grade. AR 220-45 prescribes the procedures for maintaining duty rosters.

b. Policy File. While not mandatory, a policy file should be maintained for the company commander. Examples of documents contained in such a file include a summary of decisions, directives from higher headquarters, experiences, and other information to serve as a guide for company personnel. The policies may be in the form of brief notes, plans, or directives and may include charts and tables.

c. Unit Journal and Unit History. Prepared daily, the unit journal gives a chronological record of events. The preparation and maintenance of a unit journal and unit history may be regarded as a command function, depending on the specific command or theater army policy. AR 220-15 prescribes the procedures for preparing the unit journal. AR 870-5 prescribes the procedure for preparing and maintaining a unit history.

8-4. Reports

Included in the reports required to be submitted by the company are two of prime importance: morning reports and conduct and efficiency ratings.

a. Morning Reports. Prepared daily by the company clerk, the Morning Report (DA Form 1) reflects day-to-day strength of the company, transfers, assignments, promotions, reductions, and other

changes in the status of company personnel. AR 680-1 prescribes procedures for preparation of the morning report. DA Form 2475 (Personnel Data Card) maintained by the unit clerk, contains information which assists him in preparing the morning report.

(1) Each morning report covers the activities of the company for the 24-hour period from 0000 hours until 2400 hours of any given date. The report will not be prepared prior to the close of the morning report day but will be prepared before 1000 hours the following day. When the day of preparation of report(s) for a preceding day(s) falls on a day other than a normal workday (Sunday or holiday) the morning report(s) may be prepared the next succeeding workday.

(2) Accuracy and legibility in reporting are of prime importance. Errors in data have a far-reaching effect. An erroneously prepared report may result in additional administrative work at each level from the company to Headquarters, Department of the Army. The report will be prepared on a typewriter whenever possible. Customary handwriting is not authorized; however, entries may be made with blue-black ink or with indelible pencil in block capital letters. The number 1 copy must be dark enough to permit microfilming.

(3) The abbreviations authorized by AR 310-50 will be used whenever practicable. Punctuation marks are not used unless they are necessary for clear meaning. Erasures are not permitted. Errors made during preparation may be corrected by re-typing the entire report or by lining out the incorrect entry. Each lined out entry will be initialed by the officer authenticating the report. To correct an error on a previous report, a corrective remark is made on a subsequent report under the appropriate group heading. The correction is posted in pencil on the company file copy of the incorrect report, and the date the correction was made is indicated. If information to be recorded is received after the morning report has been forwarded, this information is included in the next report as a delayed entry. A delayed entry will show the effective date in the remark itself but it will not be prefaced by the term, "Delayed Entry" or any similar term.

(4) Morning reports will be classified in accordance with AR 380-5 when warranted by information contained in the report. For additional guidance on classification of morning reports, see paragraph 1-11, AR 680-1.

b. Conduct and Efficiency Ratings.

(1) These ratings provide information on an individual for use in conjunction with other avail-

able data as a guide or criterion in determining eligibility for certain personnel actions. Such actions include good conduct medal awards, assignments, promotions, and types of discharges. Conduct ratings are based on demonstrated reliability, good moral influence, sobriety, and obedience. Efficiency ratings are based entirely on job performance. Each type of rating covers a specific period and should not be influenced by previous reports rendered on individuals.

(2) The unit commander is responsible for making sure that all company officers are familiar with the rating system for enlisted men (AR 600-200), with rating criteria, and with the impact of conduct and efficiency ratings on the careers of individuals being rated. The company officers should also understand the vital necessity for rendering fair and impartial ratings to preclude injustice to both the rated individual and the Government. The commander is also responsible for ensuring that each enlisted person in his command is aware of the effects of the ratings on appointments, assignments, awards, and ultimately the type of discharge he will receive upon separation from the service.

(3) Efficiency reports are prepared on warrant officers in the unit by the immediate superior in the rated officer's chain of command or staff who is in the best position to have personal or official knowledge of the performance of the rated officer. The reports are prepared in accordance with AR 623-105. Since the master and chief engineer on each of the 12 craft in the heavy boat company are warrant officers, platoon leaders of this company should be thoroughly knowledgeable in the preparation of officer efficiency reports.

8-5. Administration

Unit mail service, unit fund, mess operations, and inspections are included in the administration functions requiring supervision by the company commander.

a. Unit Mail Service. A mail service should be organized in the unit so that personal and official mail is received and dispatched efficiently and promptly. The unit postal officer is responsible for the efficient operation of this service. He is a company officer who has been assigned this additional duty on unit orders by the company commander. A unit mail clerk and at least one alternate, appointed on DD Form 285 by the company commander, assist the unit postal officer.

(1) *Unit postal officer.* Specific responsibilities of the unit postal officer include active supervision

of unit mail clerks and explaining AR 65-75 to them, making sure that mail is delivered promptly, and having hours of collection posted on all mailboxes. He is also responsible for checking daily and accounting for registered, insured, and certified mail and inspecting the unit mailroom weekly to ensure compliance with AR 65-75. Other responsibilities of the unit postal officer include reviewing the personnel locator directory to insure that it is up to date; reviewing postal records; ensuring that mail is handled in the proper manner; and reporting promptly to the unit commander any known or suspected cases of loss, theft, destruction, or other mistreatment of mail.

(2) *Unit mail clerks.* Duties of unit mail clerks are safeguarding mail until delivery or distribution is made, delivering mail promptly, assisting and advising unit personnel on postal matters, maintaining personnel locator directory file, and maintaining mail records in accordance with AR 65-75. Unit mail clerk may be held responsible for any loss brought about by their failure to properly handle mail entrusted to their care.

b. Unit Fund. The unit fund, a nonappropriated welfare fund, is established in a unit to enable the unit commander to procure articles and services not available from appropriated funds and which are for the welfare of military personnel of the unit. The unit fund is administered and supervised by a unit fund council appointed on orders by the unit commander. The council will be composed of at least one commissioned officer and two noncommissioned officers and/or specialists E-4 and above. The commissioned officer and enlisted representatives on the council must be members of the unit. The company commander will designate a commissioned officer or warrant officer of the unit to serve as custodian of the fund. For guidance on authorized disbursements from the unit fund, see paragraph 3-12b, AR 230-1.

(1) *Unit fund council.* The council will meet at least once a quarter, or more frequently when necessary, at the call of the president. A member of the fund council is designated by the unit commander to serve as president. Proceedings of council meetings will be maintained and signed by a member of the council who has been appointed by the unit commander to serve as recorder. The duties of a unit fund council are outlined in AR 230-1. The duties of a recorder are outlined in paragraph 3-6c, AR 230-1.

(2) *Unit fund custodian.* The custodian is responsible to the council for fund administration and establishing internal control procedures. For additional guidance on the duties and responsibilities of

a unit fund custodian, see paragraph 3-7a(2), AR 230-1. Unit fund records are maintained in accordance with instructions contained in AR 230-21.

(3) *Sources of unit fund income.* The primary source of unit fund income is the Army portion of profits derived from the operation of the Army and Air Force Exchange Service and the Army and Air Force Motion Picture Service. These profits are distributed to unit funds on a monthly basis through the central post welfare fund. Other authorized sources of income include proceeds from the sale of fund owned property; grants from command welfare funds; contributions and donations voluntarily offered by individuals, business firms, civilian organizations, benevolent and fraternal societies, or any association outside the military department (para 1-37, AR 230-1); interest on savings deposits in authorized banking facilities; and investment in United States Government securities and Federal Government securities (AR 230-1).

c. Dining Facility Operations.

(1) The unit commander is responsible for the proper feeding of the troops in his command, for the proper operation of the unit dining facility, and for making inspections of all aspects of dining facility operations.

(2) Two functions must be performed if the unit dining facility is to be operated efficiently. The first involves the administrative actions required to secure rations, account for meals served, and account for cash collected for meals. The second involves the actions necessary to prepare and serve food and to maintain the cleanliness of the dining area. (See paragraph D-5 for a checklist to be used in inspecting the unit dining facility.)

(3) Dining facility administration in a water transport unit may involve a field ration system, a monetary allowance ration system, or a combination of both.

(a) *Field ration system.* A field ration dining facility usually receives its subsistence supplies from an Army source—commissary, ration breakdown point, or supply point operated by a table of organization and equipment supply and service unit. A DA Form 2970 (Subsistence Report and Field Ration Request) is used to request rations; delete or reduce in quantity items to be issued; and to report strengths, head count, and other data used for developing troop feeding plans. The unit receives its subsistence from the ration breakdown points or in some instances by direct delivery of items purchased from local vendors. DA Form 3294 (Field Ration Issue Slip) is used to record all field ration issues from Army sources, and DA Form 1687 (No-

tice of Delegation of Authority—Receipt for Supplies) is used to receipt for locally purchased items when delivery is made direct to the unit dining facility by the vendor. The mess officer must apply positive measures to account for the number of meals consumed and for the money collected from personnel for meals consumed in the dining facility. This is accomplished through the use of head counts and DD Form 1131 (Cash Collection Voucher). For details see TM 10-405.

(b) *Monetary allowance ration system.* Certain water transport units and teams whose vessels have galleys (dining facilities) may be authorized by the US Army Food Service Center to subsist on a monetary allowance ration system. This system allows the purchase of daily food allowances for authorized crew members of individual vessels. When purchases are made under this system, they must be made from military commissaries or approved commercial food sources. This system is very difficult to use in an oversea theater in wartime because commissaries are not available or local regulations prohibit their use by these units, and approval of commercial food sources is difficult because of stringent sanitary requirements. Therefore, in most cases, the water transport units operate under the field ration system. For details on controls and records required under the monetary allowance ration system, see AR 30-1, The Army Food Service Program.

(4) The individual who supervises dining facility functions is the mess officer or vessel master, a company officer who has been assigned this additional duty by the company commander. The individuals who implement these functions are the mess steward, cooks, and kitchen police personnel.

(a) *Mess officer.* Responsibilities of the mess officer include obtaining required subsistence, dining facility equipment, and operating supplies, and making frequent inspections of the dining facility. These inspections are made to insure that all subsistence is stored properly; the menu is being followed and only authorized substitutes are used; the Cook's Worksheet (DA Form 3034) is being followed for details in preparing, cooking, and serving food; all dining facility equipment is properly maintained and properly used; all aspects of sanitation are enforced; and records and accounts are kept in accordance with pertinent regulations. The mess officer supervises the mess personnel through the mess steward.

(b) *Mess steward.* The steward is responsible to the mess officer for the operation and control of the dining facility. Specific duties of the mess steward include inspecting mess personnel, equip-

ment, and buildings for cleanliness and ensuring that the dining facility area and equipment are kept in a sanitary condition; preparing the cook's worksheet for compliance by the cooks in the preparation, cooking, and serving of food; preparing estimates for the number of rations required; supervising the preparation, cooking, and serving of food; recording amounts of money collected for meals from persons subsisted in the dining facility; preparing and maintaining accounts, records, and related reports; and reporting promptly all breakage to the mess officer to enable him to establish responsibility.

(c) *Cooks.* The primary duty of the cook is to prepare, cook, and serve the food. He is assisted in his duties by a cook's apprentice. The detailed duties of cooks include following the recipes when preparing each food item and observing the proper cooking time and temperature for the various foods; preparing the correct quantities of food; observing the rules of personal hygiene, dining facility sanitation, and safety precautions when preparing food; and studying the cook's worksheet to insure the timely preparation of food. Cooks on board vessels act in the capacity of the mess steward in that they must determine the type and quantities of food that the master must procure. Cooks on board are also faced with the difficult task of preparing food while underway, and must also perform kitchen police duties when the seamen are required to perform duties elsewhere aboard.

(d) *Kitchen police.* Personnel are provided by the company commander to the mess steward for the purpose of performing many of the cleaning tasks and other functions required in operating the dining facility. Duties performed by kitchen police include cleaning the dining room, kitchen, and storeroom areas; washing dishes, trays, pots, pans, and tableware; preparing fruits and vegetables for cooking; and collecting and disposing of waste material.

d. *Inspections.* Frequent inspections to determine the military and technical efficiency of the company are made by the company commander and commanders of higher headquarters to which the company is attached. Types of inspections are command and administrative.

(1) *Command inspections* cover such activities as food service, sanitation, discipline, and general military effectiveness.

(2) *Administrative inspections* are conducted to determine whether the company is complying with regulations and directives, standing operating procedures (SOP's), and instructions from higher headquarters.

8-6. Licensing and Certification Requirements

The most widely accepted method of identifying qualified equipment operators is to issue a license or certificate. The license or certificate should provide the dates of issue and expiration and the necessary information to identify the operator, indicate the equipment (watercraft, motor vehicles, other powered equipment) on which proper qualifications have been achieved, and any restrictions applicable to the operator. By Army regulations, certain items of equipment may be operated only by qualified and licensed or certified operators. The following regulations and general guidance apply:

a. *Mandatory Certification of Army Marine Personnel.* AR 56-9 prescribes the procedures for qualifying Army marine personnel for duty assignment on Army watercraft. Army marine personnel authorized to serve aboard US Army watercraft must possess a valid MOS in accordance with the appropriate military occupational specialties regulations. Army marine personnel possessing an MOS which qualifies them to operate US Army watercraft, referred to as certified personnel, will possess a US Army Marine Certificate (DA Form 3067) issued in accordance with AR 56-9.

(1) Duties aboard watercraft are divided into deck and engine areas, and annotations on the certificate indicate the individual's qualification to perform as master, mate, chief engineer, and other certified marine positions.

(2) Army marine personnel serving on watercraft in other capacities such as a marine engineman or crewman are considered noncertified MOS personnel and are not required to be licensed. However, military personnel in these positions should be given the opportunity to gain additional marine experience and attend an appropriate MOS-producing course of instruction and, on successful completion, be issued an appropriate US Army marine certificate.

(3) Personnel serving in shore-based positions such as harbor master, marine maintenance officer, marine inspector, and marine surveyor, will have either a master or engineer certificate depending upon the area in which his duties fall.

(4) The watercraft unit commander has the following responsibilities as pertain to authorized and assigned US Army marine personnel:

(a) Assigning personnel to positions for which they are authorized (AR 611-201 and AR 611-112).

(b) Insuring that personnel possess marine qualifications prior to assignment to duty positions.

(c) Verifying that marine personnel possess the skills and knowledge required by the appro-

appropriate MOS regulation prior to changing their MOS code.

(d) Ensuring that the Marine Service Record (DA Form 3068-1) is maintained as prescribed by AR 56-9.

(5) A command (battalion or higher level) marine qualification examiner is a marine warrant officer qualified to administer written and onboard examinations to marine personnel. He shall possess an MOS skill level of B or C, as outlined in paragraph 1-5k(2) of AR 56-9, and shall have been awarded a suffix of 5 as directed by paragraph 19 of AR 611-103. He is then designated in appropriate unit orders to assist the unit commander in verifying the marine qualifications, administering written and practical marine qualification examinations, and forwarding the results administered through command channels, to the Commandant, US Army Transportation School, ATTN: Marine Qualification Board, Fort Eustis, Virginia 23604, for issuance of a US Army marine certificate.

b. Mandatory Licensing of Motor Vehicle Operators. AR 600-55 establishes policy and standard procedures for the selection, testing, and licensing of personnel to become Army motor vehicle operators, except full-tracked combat vehicle operators. Additional information on the selection and training of wheeled vehicle operators may be found in TM 21-300. Every person operating a motor vehicle for the Army must possess a valid permit (license) (SF 46 (US Government Motor Vehicle Operator's Identification Card)) and DA Form 348 (Equipment Operator's Qualification Record (Except Aircraft)).

c. Mandatory Licensing of Operators of Other Equipment. AR 600-58 establishes policy and prescribes procedures for the selection, training, testing, and licensing of operators of powered or self-propelled equipment. Items requiring special tests and qualifying procedures for licensing operators are outlined in TB 600-1. Every person operating any of the equipment listed below, regardless of size or capacity, must possess a valid permit (license), DA Form 348 and SF 46.

(1) All types of electrical power generating equipment, 0.5 kilowatts and above.

(2) All gas producing equipment (oxygen, nitrogen, acetylene, etc.).

(3) Air compressors of all pressures, 5 cubic feet per minute and above, except installed, automatically controlled units.

(4) Materials handling equipment.

(5) Heating and cooling equipment (air conditioning and refrigeration units powered by liquid

fuel engines and all types of heaters and field ranges using gasoline for fuel).

(6) All pumping equipment, 55 gallons per minute and above, when powered by a gasoline or diesel engine.

8-7. Military Pay

a. The prompt and accurate payment of unit personnel is a joint responsibility between the servicing finance officer and the commander.

b. To ensure that personnel are promptly and accurately paid, the commanding officer is responsible for—

(1) Providing a class A agent officer when necessary.

(2) Answering questions for subordinates regarding pay matters and referring difficult or technical questions to the finance officer.

(3) Reviewing and approving, if authorized under the conditions specified in paragraph 1-20, AR 37-125, enlisted members' requests for partial payments. When approving a member's request for a partial payment for emergency reasons, the commander should consider the two-payday concept of Joint Uniform Military Pay System (JUMPS)—Army; that is, payment on the 15th and the last day of the month, and approve the request only when the emergency stated on the request indicates that hardship exists which will result in privation to the member or his dependents. Except for partial payments requested in accordance with paragraph 1-20, AR 37-125, a partial payment may not be approved in an amount which will exceed the amount of pay due the member from the Finance Center US Army (FCUSA) at the end of the month in which the request is made.

(4) Making final approval or disapproval of subordinates' requests for emergency payment of withdrawals from the Savings Deposit Program.

(5) Reviewing and approving or disapproving all advance of pay requests for enlisted members in pay grade E-1 through E-6.

(6) Preparing as required, a letter of transmittal for transmission of pay data through the unit personnel officer to the servicing finance office. A copy of each daily morning report entry reflecting a change in a member's pay account is listed and attached to the letter of transmittal.

(7) Contacting the finance officer whenever a member of the unit reports that a paycheck has not been received from FCUSA. The finance officer will determine the proper action to be taken in each instance.

c. Detailed information on pay responsibilities should be obtained from the servicing finance officer and DA Pam 35-1.

d. Class A agents are appointed on special orders or letter orders by local commanding officers or

higher authority to act as agents for finance and accounting officers. Specific instructions concerning responsibilities and duties of class A agents are contained in FM 14-8.



CHAPTER 9

UNIT SUPPLY OPERATIONS

9-1. General

The supply element of each water transport unit provides equipment and supply support to all elements of the unit. AR 710-2 is the detailed basic reference on unit supply procedures covering the following areas:

- a. Accountability and property book accounting.
- b. Supply responsibility.
- c. Supply authorization documents.
- d. Request and turn-in of supplies and equipment.
- e. Individual/organizational clothing and equipment procedures.
- f. Repair parts procedures.
- g. Supply channels.
- h. Pecuniary liability.

9-2. Accountability

a. In a water transport unit, a property book officer is the individual designated on orders to maintain accountability for property on a property book(s). This accountability is an obligation imposed by law or lawful order or regulation on an officer or other person for keeping an accurate record of property or funds. In maintaining accountability he may or may not have actual possession of the property. As property book officer his accountability is concerned primarily with records, but he has direct responsibility for property in his physical possession and in this respect he is concerned with its custody, care, and safekeeping.

b. Property book accounting is an established system used by the property book officer to maintain records of certain classes of nonexpendable property and expendable (reportable) items. He uses two basic records to maintain this accountability of property: the installation property book and the organizational property book. He records installation property (beds, pillows, sheets, desks, etc.) in the installation property book, and organizational property (weapons, radios, vessels, etc., from

section III of applicable table of organization and equipment (TOE)) in the organization property book. To record his supply transaction, he uses a document register and files prescribed by AR 710-2.

9-3. Supply Responsibility

a. *General.* The property book officer will, in most cases, further issue the property on DA Form 2062 (Hand Receipt/Annex No.). The recipient accepts responsibility only, with property accountability remaining with the property book officer making the issue. Responsibility is vested in all military personnel who have Government property in their possession or under their control. This may be either command or direct responsibility.

b. *Command Responsibility.* The commander must ensure that the property of his command is safeguarded properly, accounted for, and administered. This is a requirement inherent in command. For both supply and tactical purposes, it is essential that commanding officers be assured that the required property is on hand or on request, that it is in a serviceable condition, and that it is cared for and used properly. There should be no accumulation of property beyond authorized levels of allowances. Supply accounting and proper administration of supplies are functions of command. Commanding officers are not exempt from pecuniary liability for loss, damage, or destruction of Government property pertaining to their commands.

c. *Direct Responsibility.* As distinguished from command responsibility, direct responsibility applies to all individuals to whom public property has been entrusted. An individual with direct responsibility for military property is charged with the care and safeguarding of the property whether such property is in his personal possession, in use, or in storage. The signature of an individual on a hand receipt for property is prima facie evidence that the individual has accepted responsibility for the care and safekeeping of the property. The assignment to duty, such as command of a unit in which responsi-

bility for property is inherent, is also *prima facie* evidence that the individual so assigned is charged with responsibility for the care and safekeeping of the military property of the unit.

9-4. Supply Authorization Documents

The various supply authorization documents prescribe the equipment, supplies (expendable and nonexpendable), personal clothing, and repair parts that are authorized to be maintained in a unit. The supply authorization documents used by water transport units are as follows:

a. TOE prescribe the usual mission, organizational structure, personnel, and basic items of equipment authorized for each water transport unit.

b. Common-type tables of allowances (CTA) provide the unit with recommended allowances of common items of equipment which are required worldwide. The applicable CTA for each unit are cited in section I of the TOE pertaining to the specific unit.

c. Whereas TOE and CTA provide general information on items of supply, supply catalogs provide specific information for accurate requisition of required items. Technical bulletins and supply bulletins assist the supply officer in locating the needed supply data on each item.

d. Technical manuals are prepared for items of equipment requiring maintenance. A TM ending with a "-20" numerical designation identifies the manual as an organizational maintenance level manual. Repair parts and special tool lists may be printed in the same manual with the maintenance procedures, or as a separate manual with the same TM number with a "P" added to the end of the numerical designation. The TM repair parts and special tool lists provide organization supply personnel with such things as item description and repair parts allowances for the computation of a unit's prescribed load list.

9-5. Request and Turn-In of Supplies

a. Individuals and elements of water transport units make their needs for supplies known to their unit supply element. Their requests may be made by telephone, a written note, or any means available. The unit property book officer consolidates all requests, prepares the request for issue documents (DA Form 2765 for expendable items and DA Form 2765-1 for nonexpendable items) and forwards the documents to the supply support activity. Requests may be further consolidated at battalion or higher echelon. Expendable supplies may also be obtained by the unit by three other methods as follows:

(1) By summary accounting for low dollar turnover items (SALTI), a procedure where low dollar turnover items are issued by supply support activities directly to using units without the requirement of formal requesting procedures. A request form, prescribed by the installation commander, is taken direct to the SALTI issue point for the item. Supply support activities determine which items are to be issued by this method.

(2) By a self-service supply center system, whereby the center furnishes all units and activities a list of items in stock and the units may purchase anything they wish within their prescribed monetary allowance.

(3) By direct exchange, where the unit prepares an Exchange Tag (DA Form 2402) and hand-carries it, along with the unserviceable parts, direct to the direct support unit for exchange for serviceable repair parts.

b. A turn-in is the return of items to the supply source. Items are turned in because they were over issued, are excess to authorized allowances, or have become unserviceable. A DA Form 2765, or 2765-1 is prepared for a turn-in to the supply support activity.

9-6. Individual/Organizational Clothing and Equipment Procedures

a. A consolidated record, DA Form 3327 (Personal Clothing Record—Enlisted Men), is used for the issue and turn-in of individual/organizational clothing and equipment and is maintained by company supply personnel. These forms accompany the personnel records of the individual when he is transferred.

b. An individual, upon entry on active duty, receives his initial issue of personal clothing. When they are assigned to a unit, individuals may receive organizational clothing and equipment from either the unit property book officer or a central issue facility. The issue (or turn-in) is recorded on an abstract of issue (DA Form 3325-R) and retained by the issuing activity. When the individual transfers from the activity, he processes through the property book officer or central issue facility and turns in the items of organizational clothing and equipment not authorized for retention. The company must schedule and supervise the direct exchange of organizational clothing and equipment items which are unserviceable through fair wear and tear.

9-7. Repair Parts Procedures

a. The procedure for requesting, canceling, and turning in of repair parts and maintenance related

supplies is the same as other supply procedures. Unit commanders are responsible to insure that care is taken to protect such supplies from loss, damage, destruction, or consumption in other than the public service.

b. Repair parts in water transport units are divided into two areas: those repair parts sets for each type of vessel commonly called onboard spares, and the authorized repair parts for equipment other than for vessels or onboard equipment (for example, weapons, gas masks, vehicles, etc.).

c. A Prescribed Load List (DA Form 2063-R) is a document which indicates those quantities of repair parts and maintenance related supplies (normally 15 days of supply) required to be on hand in the unit. The prescribed load stocks are located at the organization level where personnel, tools, and equipment are authorized to perform maintenance on the equipment. Vessel supply officers will maintain a list of onboard spares separately from other authorized repair parts. Onboard spares will be stored aboard the vessel for which the quantity was computed. Applicable "-20" or "-20P" technical manuals are used to determine initial stockage levels. After the initial prescribed load is established, a Record of Demands—Title Insert (DA Form 3318) is maintained for each item authorized for stockage to record how often a particular part is requested so that stockage can be adjusted based on actual demand experience. Major commanders may authorize additional prescribed loads based on unusual operational aspects such as extended voyages, operating in isolated areas, and the requirement for nonstandard items of repair parts.

9-8. Supply Channels

a. In the Army, supply channels usually parallel command channels. For example, a water transport unit has as its next higher command a transportation terminal battalion and must go to the battalion for supplies. However, when the unit needs repair parts, it must get them through maintenance channels.

b. Within the organization, supply channels vary somewhat depending upon whether an item must be accounted for on property books and upon the facilities that are provided by supply support activities. Expendable supplies may often be obtained by the unit directly from supply support activities through methods given in paragraph 9-4. Nonexpendable supplies are subject to property book accountability and must be obtained through the unit property book officer. The request goes from the unit to the organization, to the installation or direct support unit, and then to a national inventory control point

(NICP) and its depot. The supplies pass back through the same channels except that they bypass the NICP.

9-9. Pecuniary Liability

Pecuniary liability is the obligation to make good the loss, damage, or destruction of Government property resulting from fault or neglect. *Accountable* officers, having Government property entrusted to their care for storage and issue, and *responsible* officers are pecuniarily liable to the Government for any loss caused by their misconduct or negligence in maintaining proper accounting records and/or proper safeguards for the property. This applies as well to all military personnel who have Government property in their physical possession or under their control.

9-10. Relief of Property Responsibility

When Government property has been lost, damaged, or destroyed, the individual with direct responsibility for the property must act immediately to obtain relief from property responsibility. The methods used to obtain this relief, based on the specified requirements and the circumstances under which the property was lost, damaged, or destroyed are—

a. *The Quarterly Report of Operational Breakage and Losses*, which is a simplified method for reporting operational breakage of minor nonexpendable property (valued at less than \$25) where negligence and, accordingly, pecuniary liability is not involved. DD Form 200 (Report of Survey) is used for this purpose.

b. *A Statement of Charges*, which is prepared when property having a value of less than \$250 is lost (except weapons), damaged, or destroyed, thus reimbursing the Government for the property. Liability must be voluntarily admitted by the individual concerned prior to using this method. DD Form 362 is used for the statement of charges.

c. *A Cash Collection Voucher (DD Form 1131)* which may also be used under the same circumstances as for the statement of charges. This method involves a cash collection direct from the individual.

d. *A Report of Survey (DD Form 200)* which is submitted regarding the loss when the above methods are inappropriate to secure relief for lost, damaged, or destroyed Government property. The report of survey is the least economical of all methods and involves collecting and reporting the facts and circumstances regarding the loss, damage, or destruction of the property necessary to make a determination if the individual or individuals are

responsible for the loss to the Government. See AR 735-11 for details.

9-11. Unit Supply Responsibilities

Company personnel who are directly concerned with supply activities within the unit include the company commander, unit supply officer or vessel supply officer, platoon leaders, vessel masters, supply sergeant, and armorer. They are discussed in the following subparagraphs insofar as their supply duties are concerned.

a. Company Commander. The company commander has the overall responsibility for supply activities in the company, and this responsibility cannot be delegated. Specific requirements of the company commander are to ensure that all authorized equipment is on hand or that a request has been submitted for equipment authorized but not on hand; by frequent inspections, determine that all company property is complete and serviceable; ensure that company supply personnel are properly trained in their duties; make sure that all members of the company know how to correctly maintain unit property; ensure that no property is on hand which is not authorized by proper authority; rapidly take the appropriate measures to account for company property which has been lost, damaged, or destroyed; and develop a unit standing operating procedure for the security of all unit property.

b. Unit Supply Officer or Vessel Supply Officer. When the unit has no supply officer designated by TOE, the unit commander will designate an officer to fill this position. As the unit supply officer, his duties include but are not limited to receipting for and controlling TOE and installation property for the company headquarters maintaining the unit property book, assisting the company commander in conducting inspections and inventories of unit property, coordinating with higher headquarters supply personnel on company supply matters, and supervising the company supply sergeant and armorer.

c. Platoon Leaders. Having direct responsibility for the property of his platoon, the platoon leader's

specific supply functions include ensuring that members of his platoon maintain the property under their control; making sure that members of his platoon are trained in proper maintenance procedures and that they have the supplies necessary to do the required maintenance; conducting frequent inspections of platoon property to make sure that the property is being maintained satisfactorily and that the required amount of property is on hand or on request from the next higher headquarters; timely submission of the proper adjustment documents for platoon property lost, damaged, or destroyed; and storing authorized property when it is not being used by a member of the platoon.

d. Vessel Master. The vessel master is the responsible officer for property aboard his vessel. He consolidates the supply requests of the deck and engine departments and submits requests to the unit supply officer. When required, the vessel master maintains his own property book aboard. He ensures that the onboard spares are adequately maintained and replenished.

e. Supply Sergeant. The supply sergeant operates the company supply room, prepares and maintains supply records, and requests and obtains company supplies. He handles the issue and turn-in of supplies, processes unit laundry, and assists the supply officer as directed in unit supply matters (para 5-10).

f. Armorer. The armorer assists the supply sergeant in the performance of the unit supply functions; however, his primary function is to perform organizational maintenance on the individual and crew-served weapons issued to the company.

g. Repair Parts Specialist. This specialist is required to perform, supervise, or advise the commanding officer on the use, interchangeability, and identification of repair parts for watercraft. To do this he must have a thorough knowledge of repair parts supply procedures; supply catalogs, manuals, and parts lists; the functional purpose of special equipment parts; the Army maintenance system as applies to watercraft; and all procedures concerning the receipt, storage, location, issue, and turn-in of all repair parts.

CHAPTER 10

COMMUNICATIONS

10-1. General

a. The establishment and maintenance of an effective communications system is essential for coordinating and controlling the Army watercraft units and their afloat and shore-based elements. An effective system enables the water transport units and elements to request assistance quickly, it permits the headquarters to properly command and control subordinate elements, and it provides a means of directing elements of the unit that are operating away from the principal company area. An effective system also facilitates control and direction of the unit by higher headquarters and

permits transmission of vital tactical information—warning of chemical, biological, and radiological attack; radiological fallout; and other changes in the situation that may affect accomplishment of the unit's mission.

b. The watercraft units use a combination of radio, wire, messenger, visual, and sound communications to provide as many alternate means of transmitting messages as conditions will permit. The primary means of communication in watercraft units is radio. For details on the types and quantities of communications equipment authorized specific water transport companies see table 10-1.

Table 10-1. Water Transport Unit Communications Equipment

Major items of communications equipment, Army water transport units	Items per company			
	55-128 medium boat company	55-129 heavy boat company	55-138 light amphibious company	55-139 medium amphibious company
Radio sets:				
*AN/GRC-106.....		13		
*AN/VRC-46.....	17	12	35	25
*AN/VRC-47.....	3	1	2	2
AN/VRC-47 Truck Mounted.....	1	1		
AN/VRC-46 Truck Mounted.....			4	4
AN/GRA-39 Control Group.....			2	2
AN/SRC-32 or AN/SRC-32Y.....	19		35	25
Visual:				
Signal Lamp Equip: SE-11.....	18	13	1	1
Telephone:				
Telephone Set: TA-312/PT.....	7	1	7	7
Switchboard Telephone Manual: SB-22/PT.....	1		1	1
Sound:				
Public Address Set: AN/PIQ-5.....	5		2	2

*Organic to watercraft.

10-2. Communications Responsibilities and Policies

a. General.

(1) The areawide communications service between transportation units in the communications zone (COMMZ) is provided by the theater army communications system. In the army area, behind

the rear of the combat zone, this service is provided by the army area communications system. This service, coupled with the organic communications capability provided water transport units, makes up the communications net for water transport units.

(2) The area signal organization installs and operates the area communications system. This

system consists of a network of area signal centers which provide communications support throughout the area to all units requiring signal center facilities to supplant organic means for external communications to higher, subordinate, or adjacent units. Trunking circuits interconnect the area signal centers and provide alternate routine capability. Each area signal center may operate a telephone central, a teletypewriter central, and a communications center which will transmit and receive messages for units in its area. Messenger service is provided among area signal centers, but local messenger service to and from the area signal center must be provided by the unit. The area signal center installs telephone wire lines to the water transport units within its area. It also operates a radio-wire integration station, which interconnects frequency modulated radios with the common telephone system on a push-to-talk basis.

(3) The distances between a transportation terminal battalion headquarters and its companies may exceed the organic wire laying capability and the range of organic radios. In this case, the area communications system would provide the only communications net available to water transport units. Also, communications between a water transport unit and the terminal units it supports is provided through the army area communications system. It is essential that each transportation terminal battalion headquarters and operating company be connected to an area signal center.

(4) The signal unit operating an area signal center is equipped to install wire lines to all units in its area of responsibility on a priority basis. Normally, a maximum radius of service from an area signal center will be specified by higher authority, and units outside this radius will not be afforded wire service.

(5) The number of telephone circuits between an area signal center and transportation terminal battalion or company will normally be specified by the Army signal standing operating procedure (SOP). This number of circuits will be installed upon receipt, by the area signal center, of notification of the move of a unit into its area. When moves are planned, notification must be given to the appropriate signal center as far as possible in advance of the move to ensure that communications requirements can be met at the new location.

b. Policies. The signal officer of each major command has the responsibility for allocating the type and extent of electrical communications within the command, based on indicated requirements, availability of facilities, and priorities. Water transport

unit communications policies must conform to those established by higher headquarters.

10-3. Communications Personnel

a. Communications Officer. An inherent responsibility of the water transport unit commander is the appointment of a unit communications officer. This function is performed as an additional duty and involves—

(1) Keeping the commander informed on the communications situation.

(2) Coordinating communications with higher, adjacent, and subordinate units.

(3) Preparing communications plans.

(4) Assisting in the selection of the site for the unit command post.

(5) Supervising the installation, operation, and maintenance of the unit's communications system.

(6) Determining communications and supply requirements.

(7) Supervising or arranging for the training of communications personnel to include the training of alternate operators.

(8) Preparing extracts of current communications-electronics operation instructions (CEOI) and communications-electronics standing instructions (CESI) for use by unit communications personnel.

(9) Maintaining liaison with the area signal center supporting the area. FM 24-16 provides guidance for unit communications officers in preparing orders, records, and reports pertaining to communications.

(10) Preparing radio net and wire system diagrams based on organic communications equipment and its employment, and nets outside the unit which the unit monitors or is part of. FM 24-18 and FM 24-20 provide guidance for the unit communications officer in field radio and field wire techniques.

(11) implementing communications security (COMSEC) policy and procedures.

b. Communications Chief. This position is found in the heavy boat company only. See paragraph 5-21 for a discussion of his duties.

c. Radio Operators. The radio operator is responsible for the proper use of the radio to include the use of correct radio procedures and maintaining communications security. He must be familiar with the CEOI and CESI with respect to radio procedures, call signs, and security. He is responsible for performing operator maintenance on his radio equipment. He must know the capabilities and limitations of the radio and must be familiar with the

other facilities incorporated into the radio net of which the company is a part. Finally, radio operators must be proficient in the recognition of electronic countermeasures (ECM) and the application of COMSEC and electronic counter-countermeasures (ECCM) as outlined in FM 24-18.

d. Switchboard Operator. The switchboard operator installs, operates, and maintains the company switchboard. He must know the techniques of installation and operation of the field telephone equipment, the capabilities and limitations of the equipment, and the facilities incorporated into the system to which his switchboard is connected. In addition, he serves as the company wireman in which capacity he installs and maintains the field wire communications system and performs organizational maintenance on the field wire communications equipment of the company. During the initial installation of the company wire net he may require the assistance of additional available personnel, depending on the distance between company elements and the availability of personnel not otherwise engaged. The medium boat company has less than 2 miles of field wire to lay and has a switchboard operator assigned in the company headquarters. However, a field wireman (MOS 36K) is authorized in amphibian companies, as they have more than 2 miles of field wire, and he serves as the switchboard operator. The heavy boat company has no switchboard operator.

10-4. Communications Equipment Supply

a. Authorized items of communications equipment are prescribed in tables of organization and equipment (TOE) and in the applicable tables of allowances as onboard equipment. Additional equipment may be authorized by higher commanders. Initial supply and replacement is made through normal supply channels. The supply sergeant, with the assistance of the communications officer, prepares and submits requisitions for equipment and supplies.

b. Repair parts consist of parts, assemblies, and components required for installation in the maintenance of an end item. Allowance for stockage of repair parts at various categories of maintenance are established by repair parts and special tool lists of the equipment technical manual. Quantities of repair parts authorized for operator maintenance are issued initially with the equipment and are authorized to be kept on board by the operator.

10-5. Maintenance of Communications Equipment

The radio operator maintains his equipment within

the limits of his authorized operator maintenance. Maintenance performed by the operator includes protecting the equipment from weather and rough terrain, cleaning and drying, adjusting, and lubricating. When the equipment becomes inoperative and requires technical maintenance it is turned in to organizational maintenance (MOS 31B, field radio mechanic). Organizational maintenance encompasses removal and replacement of tubes, relay cables, and modules; it also includes troubleshooting using the equipment performance checklist in the equipment technical manual. When the equipment requires maintenance or repair beyond authorized organizational maintenance it is turned in to the supporting maintenance activity for repair or direct exchange replacement.

10-6. Communications-Electronics Instructions

a. Communications-Electronics operation instructions, (CEOI) are a type of combat order issued for the technical control and coordination of communication within a command. The instructions include items covering radio call signs and frequencies, telephone directory, and visual and sound signals. Current items are listed in the index to the CEOI. The designated battalion staff officer prepares the transportation terminal battalion CEOI. They conform to the CEOI of the next higher unit. Water transport units attached or assigned to a battalion headquarters will use only extracts from the battalion CEOI. CEOI are classified and copies of extracts must be safeguarded according to their security classification.

b. Communication-electronics standing instructions, (CESI) contain items of operational data not subject to frequent change and instructions for the use of the CEOI. They are prepared by the designated battalion staff officer who may issue them in a separate publication or consolidate them in the CEOI.

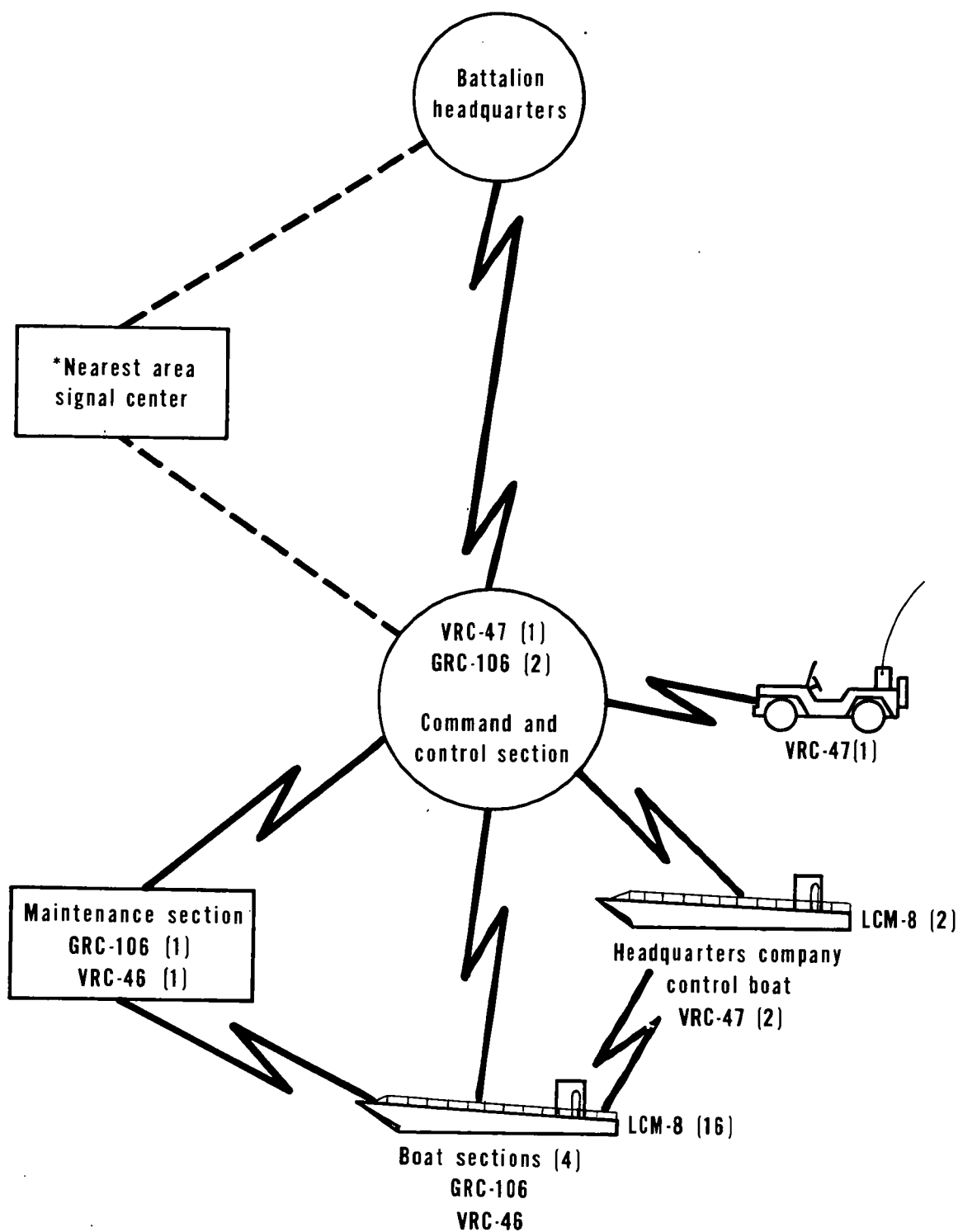
c. Within water transport units, communications procedures that can be standardized are made part of the unit SOP. The SOP must not violate instructions disseminated in other types of official publication from higher headquarters.

10-7. Means of Communication

a. General.

(1) The means used by water transport units are radio, wire, messenger, visual, and sound communications.

(2) The means of communication employed by watercraft units in an operation and the restrictions placed on such communications are covered in the



*Note: Communication between battalion headquarters and the unit command and control section is accomplished by the area signal center through land lines when beyond the capability of radio.

Figure 10-1. Sample water transport company radio net.

SOP of the watercraft unit or of the command to which it is attached. Sailing orders issued to vessels may also contain specific communications procedures and instructions pertaining to the individual mission.

(3) All communications originating from watercraft will comply with CESI. Appropriate extracts of these instructions will be aboard all vessels equipped with communications equipment.

(4) All personnel concerned must be thoroughly trained in COMSEC procedures and ECCM techniques.

(5) The communication means have different capabilities and limitations. They are used to complement each other; entire dependence must not be placed on any one means. The reliability of the overall communications system is greatly increased by developing skills in the use of all practical communications means. The means used most in a given situation is the one which provides maximum reliability, flexibility, security, and speed, with a minimum of effort and material.

b. Radio.

(1) *General.* Radio provides a rapid and reliable means of establishing communication between vessels, aircraft, and shore installations. However, any radio transmission is vulnerable to interception and exploitation by the enemy. The advantage of transmission speed must be balanced against the possible loss of security. The radio equipment required for intracompany control of unit water transport operations and for communication with vessels of the Navy and port officials when craft are operating outside the terminal area to which they are assigned is described below. A sample radio net is shown in figure 10-1.

(2) *Radio set, AN/VRC-46.* This set is a configuration of the AN/VRC-12 radio family using manual tuning. It is designed to provide FM short range (25 to 32 kilometers) voice communication and can be utilized between a net control station, AN/VRC-47, ashore and the lighters afloat, and from lighter to lighter. The AN/VRC-46's aboard the lighters give the operator the capability to monitor or transmit on one channel. The VRC-46 also provides ground-to-air communication to facilitate communication between the lighters while on the open sea and Army aircraft. This method of communication is employed for emergency rerouting and issuance of instructions to vessels beyond the range of the unit net control station.

(3) *Radio set, AN/VRC-47.* This set is also a configuration of the AN/VRC-12 family and provides the net control station in each water transport

company. The set consists of an R/T (receiver-transmitter) and an auxiliary receiver, giving the operator a capability of monitoring two channels simultaneously, or monitoring one channel while transmitting on the other.

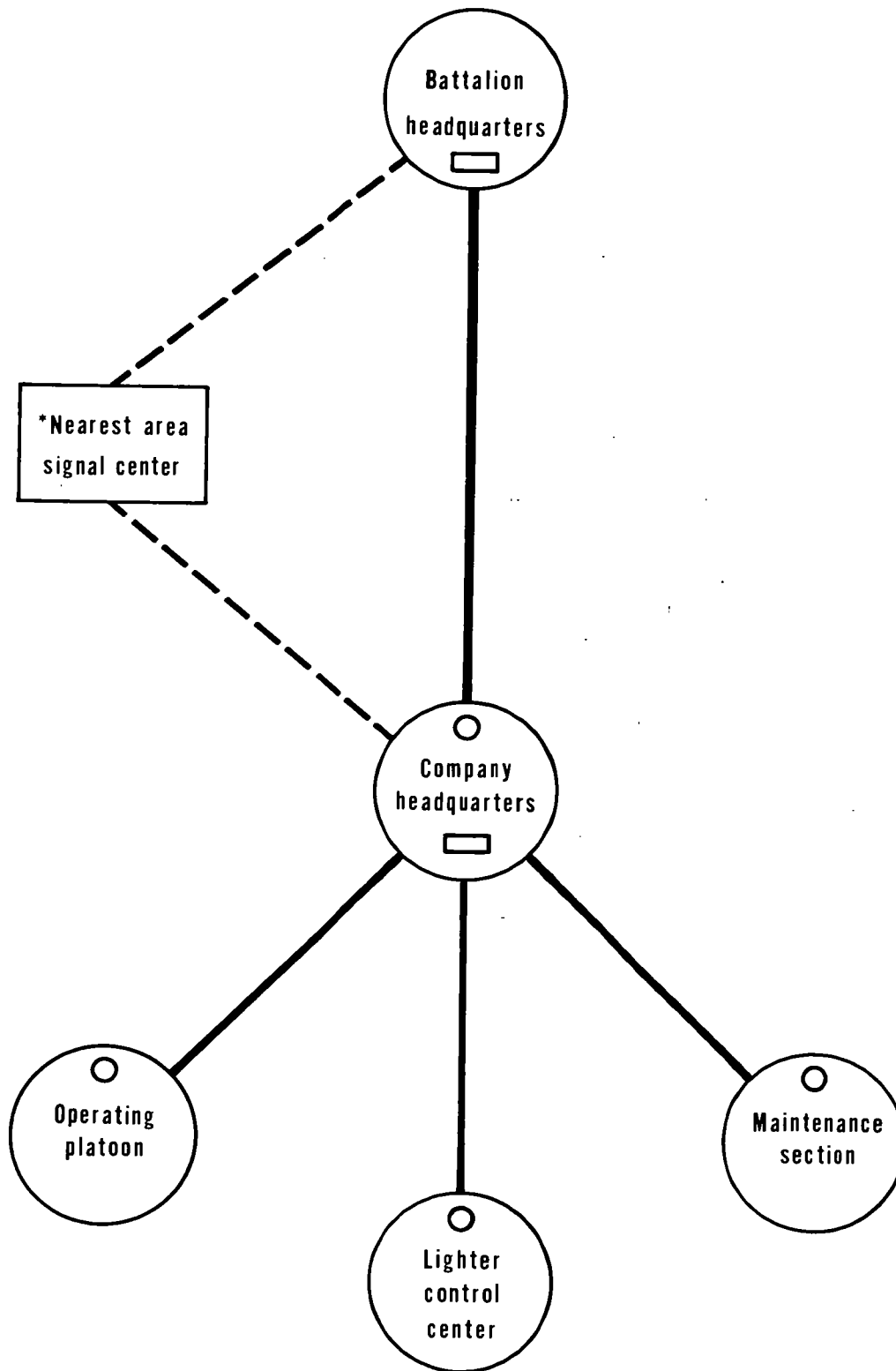
(4) *Radio set control group, AN/GRA-39.* The AN/GRA-39 is designed for use with the AN/VRC-47 radio set. By using this equipment the radio set AN/VRC-47 can be sited at an advantageous transmit-receive location and operated from a remote and concealed position 3.2 kilometers away. The AN/GRA-39 also has the capability of telephone service, voice, and sound signaling between local and remote sites.

(5) *Radio set, AN/GRC-106.* The AN/GRC-106 is a long-range, high-frequency, single-sideband tactical communications radio set. It has a capability of providing single-sideband voice, continuous wave, radio teletypewriter and combined voice and radio teletypewriter operation. Its tactical transmission distance is 80 kilometers (50 miles) using ground waves.

(6) *Radio sets, AN/SRC-32 or AN/SRC-32Y.* Either of these radio sets is installed on marine craft unless the craft are authorized the AN/GRC-106. These sets are not included in section III of the TOE. The sets provide short to medium AM radio telephone communication ship to ship and ship to shore. They are used primarily for nontactical communications and have a transmission distance range of 240 kilometers (150 miles).

c. Wire. Although water transport units depend primarily on radio and visual equipment for communication, these facilities are supplemented by wire communication. Wire communication is used primarily as a tie-in for the unit's land-based operations and as a tie-in with established wire lines. It affords person-to-person conversation with break-in operation (capability of interrupting the conversation), and it is more secure than radio communication. However, security is never assured when transmitting in the clear. The major items used in wire communication include the following:

(1) *Telephone set, TA-312/PT.* The TA-312/PT is a tactical field telephone that may be used as a manual telephone arranged for local battery, common battery, or common battery signaling operation. It is waterproof and can be used under all outdoor conditions, or as a desk or wall-mounted telephone. The planning range is approximately 24 kilometers. The range varies depending on the weather and the condition of the wire. Wet weather, poor splices, and damaged insulation reduce the range appreciably.



TA-312/PT ○ Telephone

SB-22/PT □ Switchboard

*Note: Connected with the area signal center when effective telephone net cannot be established direct to battalion headquarters.

Figure 10-2. Sample water transport company wire net.

(2) *Switchboard, telephone, manual, SB-22/PT.* The SB-22/PT is a lightweight, manual (monocord) switchboard that can be rapidly installed to provide field facilities for interconnecting 12 local-battery telephone circuits, remote controlled radio circuits, or voice-frequency teletypewriter circuits. The switchboard is used to increase the flexibility of the wire system and to reduce the number of wire lines needed. All unit telephones are connected to the unit switchboard which is also connected to an area signal center by area signal troops providing telephonic communication with supported and supporting units, higher headquarters, and adjacent units. A sample company wire net is shown in figure 10-2.

d. *Messenger.* The use of messengers is available to all units. Messenger service is the most effective method of transmitting and delivering lengthy messages and bulky items. The type of direct messenger service used is determined by the distance and by the circumstances involved in the communication. Messenger and courier service may be by air, motor vehicle, watercraft, or on foot, and must be planned for and provided as required. Unit personnel are used for message pickup and delivery to the terminal battalion headquarters or the nearest signal center. When practicable and depending on message content, the delivery of messages by messenger should be confirmed by other communications or a follow-up message. Although highly flexible and reliable, messengers are vulnerable to enemy action in forward areas and do not afford person-to-person conversation.

e. *Visual.* Visual communication for water transport units includes the use of semaphore, flashing or blinking lights, flag hoists, formation signals, and pyrotechnics. Boat operators and other key water transport personnel must understand and be familiar with these visual communication methods since radios must be kept free for traffic other than control messages, and in the event radio silence is imposed.

(1) *Semaphore.* The hand semaphore alphabet is used for daytime, short range, visual signaling and is transmitted by using two flags (TM 55-501).

(2) *Flashing or blinking lights.* One signal lamp equipment set, SE-11, is provided for shore personnel to communicate with personnel aboard watercraft when other methods of communication are not possible or radio silence is imposed. The messages are transmitted using the international Morse code (TM 55-501). The SE-11 is also authorized each vessel of the unit by applicable table of allowances. The SE-11 can be effectively employed in

directing lighters to specific beach landing and exit points.

(3) *Flag hoists.* Flag hoisting is a method of communication in which a set of flags and pennants of different patterns and colors is used. The set consists of 26 alphabet flags, 10 numeral pennants, 3 repeaters, and 1 code pennant. The adopted International Code of signals is published in many languages, thus providing ships of different nations the ability to communicate with each other. The principal disadvantages of this system are slowness of transmission and unsuitability for transmitting long messages. (See TM 55-501 for illustration and hoist instructions.)

(4) *Formation signals.* These signals, transmitted by hand and arm movements (TM 55-501), are used to control lighter movements in formation of relatively close distances. At night they can be seen by the use of flashlights in each hand and arm movement.

(5) *Pyrotechnics.* Pyrotechnics are signals sent in the form of a flare, rocket, or smoke apparatus, or a spontaneous signal such as a fire. They are commonly used as distress signals or to indicate beach landing areas.

f. *Sound.*

(1) Sound is a supplementary means of communication. Sound signals are kept simple to prevent misunderstanding and are transmitted by whistles, horns, Klaxons, weapons, and other noise-making devices. They are used chiefly to attract attention, to transmit prearranged messages, and to spread alarms. Sound signals are vulnerable to interception and their use may be prohibited for security reasons. Such signals and their meanings are assigned by commanders. Warning of air, ground, and CBR attacks is usually given by this means.

(2) One sound system found in most of the boat units is the public address set, AN/PIQ-5. This set is limited to a very short distance and is best utilized in control of lighters upon their close approach to shore and when alongside vessels being discharged.

10-8. Communications Security (COMSEC)

a. COMSEC is the protection resulting from all measures designed to deny unauthorized persons information of value which might be derived from the possession and study of telecommunications, or to mislead such persons in their interpretations of such possession and study. COMSEC includes cryptosecurity, transmission security, emission security, and physical security of COMSEC materials and information. It is the responsibility of the water transport unit commander to assure that COMSEC

measures are understood and observed by all unit communications personnel.

b. Water transport unit personnel will be concerned with two types of COMSEC: physical security and transmission security.

(1) *Physical security* is that component of COMSEC which results from all physical measures necessary to safeguard equipment, materiel, and documents. Prior to vacating a command post or other facility used for communication purposes, a thorough inspection should be made for copies of messages, carbons, and copies of maps or orders that might prove beneficial to the enemy. Special attention must be given to CESI and CEOI items including their production, distribution, storage, and final disposition when superseded or no longer needed. When a CEOI item or an extract of a CEOI item is compromised, the fact must be reported and the item replaced immediately. The commander must specify in the unit SOP precisely how the report is to be made. As a minimum, he normally requires that security violations be reported immediately through communications and command channels.

(2) *Transmission security* is that component of COMSEC which results from all measures designed to protect transmissions from interception and exploitation by means other than cryptanalysis. Analysis of intercepted communications signals can result in the determination of the type, purpose, location, and composition of radio nets and associated units. Such intercept can also provide technical parameters such as transmission frequency, modulation type, and power output. The enemy uses this data as a source of intelligence and to develop ECM (that is, jamming and deception) to degrade or deny friendly use of communications systems. Thus, radio operators must be thoroughly trained in correct communications procedures and be constantly alert so as not to divulge information to the enemy through faulty operating procedures and techniques. Maximum protection against enemy communications intelligence and ECM is achieved through the employment of transmission security procedures (FM 32-5) and ECCM (FM 32-20).

c. *Security Precautions.* The following are some of the security precautions that should be observed:

- (1) Radio silence should not be violated.
- (2) Transmissions should not take place in a directed net without permission.
- (3) There should be no unnecessary transmissions such as excessive testing.

(4) Transmitting operators should not send too fast for the receiving operators to receive.

(5) Transmitters should not be tuned with the antennas connected.

(6) Excessive time should not be consumed in tuning, changing frequency, or adjusting equipment.

(7) All messages should be transmitted by the most secure means available consistent with the established procedures.

(8) Personnel transmitting clear-text messages by voice radio must use prescribed radio telephone procedures.

(9) The wording and content of all messages to be transmitted should be preplanned using prescribed authentication systems and eliminating all unnecessary transmissions.

(10) Before answering inquiries received by radio, the operator should carefully consider his reply before transmitting the answer. This will reduce the possibility of a slip-of-the-tongue that may disclose information beneficial to the enemy.

(11) A high standard of net discipline is necessary and must be practiced at all times.

(12) Message books should be used in the preparation of messages for transmission. The practice, in addition to aiding in the maintaining of communications security, will provide a record of messages for later reference.

(13) Communications channels, both radio and telephone, will be used for the transmission of official information only. Operators are prohibited from using these facilities for personal conversations.

(14) Only authorized codes will be used. Locally devised systems can easily be broken by the enemy.

(15) Transmissions will be as brief as practicable.

(16) At no time will rank be mentioned in the transmission of messages. Actual names should not be used.

(17) The prescribed phonetic alphabet will be used.

(18) Above all, the ability of the enemy to intercept and use for intelligence purposes any messages transmitted must not be underestimated.

10-9. Communications Training

a. Normally, the communications specialists are trained either at service schools or at unit schools established within the command. When necessary, arrangements may be made through the signal of-

ficer of the command for the required training of these specialists. Concurrently, officers and other communications users may be given general training on radio-telephone procedures, telephone procedures, message writing, and communications security. It is the responsibility of the water transport unit communications officer to assure that all

members of the company engaged in communications have sufficient training to perform their jobs in an efficient and effective manner.

b. Units should be trained in installing, operating, and maintaining their communications systems in fast-moving situations, under all conditions of weather and visibility, and over all types of terrain.



CHAPTER 11

UNIT READINESS

11-1. General

The readiness of a unit to perform its assigned mission is affected by the status of its personnel, training, and logistic posture. The unit commander determines, based upon his knowledge of these areas within his unit, whether his unit is operationally ready to perform in its primary role. AR 220-1 prescribes the criteria for determining the readiness condition of a unit, establishes the overall objectives of the unit readiness system, and provides instructions for preparing the unit readiness report.

11-2. System Objectives

The objective of the unit readiness system established by AR 220-1 is to identify the readiness status of units. Information and data derived from the system contribute to the effective management of available resources and thereby to the attainment of Army readiness. The Army seeks to ensure that each unit has its authorized personnel with the required skills available for duty, that its authorized equipment is on hand and maintained in an operational condition, that its needed supplies are on hand, and that each unit is maintaining a state of training which will permit the accomplishment of the unit's mission as stated in its table of organization and equipment (TOE). Effectively utilized and supervised, the unit readiness reporting system will permit Headquarters, Department of the Army, to—

- a. Determine Armywide and commandwide readiness conditions and trends.
- b. Identify readiness problems which require resolution.
- c. Provide information to assist in making the best distribution of actual and programed resources.
- d. Provide information which supports requests from the Secretary of Defense for additional resources when required.

11-3. Unit Readiness Report

- a. The unit readiness report consists of two

parts—DA Form 2715 (Unit Readiness Report) and 80-column, general purpose punchcards. The report provides a means for the commander to measure and report the current readiness of his unit. It also permits all commanders to identify problem areas (in personnel, training, and logistics) which may warrant command emphasis and/or corrective action to improve readiness. To insure a uniform report, full TOE is the basic standard for measuring the personnel and equipment readiness condition (REDCON) for all units other than table of distribution and allowances (TDA) and *exception*¹ units. Authorized levels are the standard of measurement for determining REDCON of TDA and *exception* units. Therefore, REDCON's for TDA and *exception* units are related to a capability to perform peacetime missions.

b. Unit readiness reports must reflect the true condition of a unit. If the unit commander has complied with regulations and has wisely applied the resources at his disposal, and if his unit's REDCON is still below the authorized level of organization, no higher commander in the chain of command will consider this fact as reflecting unfavorably on the unit commander.

11-4. Readiness Conditions

The unit commander determines the REDCON of a unit based on his knowledge of conditions within the unit. In order that the REDCON may be measured uniformly, measurement factors in the areas of personnel, training, and logistics have been selected as readiness indicators. The general translations of the unit REDCON levels, expressed as C1, C2, C3, and C4, are as follows:

- a. *REDCON C1*. Fully ready. A REDCON C1 condition indicates that the unit is fully capable of performing the full TOE mission for which the unit is organized or designed.

¹An exception unit is one whose peacetime mission permits an organization at less than level 3 of the published TOE, but whose wartime organization necessitates an increase in personnel and equipment. An example of this type of unit is a replacement battalion stationed in an overseas theater.

b. REDCON C2. Substantially ready. A REDCON C2 condition indicates that the unit is capable of performing the full TOE mission for which the unit is organized or designed, but has minor deficiencies which reduce the unit's ability to conduct sustained operations.

c. REDCON C3. Marginally ready. A REDCON C3 condition indicates that the unit has major deficiencies of such magnitude as to limit severely its capability to perform the full TOE mission for which the unit was organized or designed, but it is nevertheless capable of conducting limited operations for a limited period.

d. REDCON C4. Not ready. A REDCON C4 condition indicates that the unit is not capable of performing the mission for which it is organized or designed.

11-5. Unit Commander Actions

Within their capabilities, unit commanders must maintain a proper balance among operations, training, maintenance, and other factors essential in attaining the optimum readiness condition. Some of

the actions a unit commander must take that are essential for achieving readiness are as follows:

a. Seek relief from obstacles to training in order to raise unit readiness condition.

b. Establish internal controls to prevent the abuse of supply and maintenance priorities and enforce supply and maintenance discipline.

c. Promptly identify and advise the next higher command of personnel, training, and logistic readiness conditions not correctable within the unit's available resources.

d. Provide sufficient prime man-hours for the performance of required preventive maintenance services.

e. Enforce internal accountability, care, and preservation of unserviceable repairable end items, assemblies, and subassemblies; insure their prompt evacuation or repair and expeditious return to the supply system, or their disposal, as appropriate.

f. Conduct unit inspections of materiel to maintain an awareness of the actual condition of each unit's equipment.

g. Reflect in readiness reports the actual condition of equipment, training, and personnel.

CHAPTER 12

UNIT MOVEMENT PLANNING GUIDANCE

Section 1. MOVEMENT PLANNING

12-1. General

A unit commander must concern himself with the necessary actions, based on the unit's contingency status, to render his unit ready for deployment. He must also be prepared to deploy it, either within the continental United States (CONUS) or an overseas area, from CONUS to an overseas area, or from an overseas area to CONUS. This chapter provides a basis for a unit commander, company officer, or noncommissioned officer to familiarize himself with some of the actions required within his unit to effectively prepare and execute a movement. In preparing a detailed movement plan, unit commanders must consult AR 220-10, TM 55-604, and all local directives prescribing procedures for performing specific preparatory actions.

12-2. Types of Movements

There are two principal types of movements: administrative and tactical. An administrative movement is one during which no enemy interference or contact is anticipated. Emphasis is on economy; that is, maximum use of the transport capability. A tactical movement differs in that the personnel, supplies, and equipment are loaded so that they may be unloaded easily and rapidly in an order that facilitates the accomplishment of the tactical mission. Here the maximum use of the transport capability is secondary to successful accomplishment of the mission.

12-3. Planning

Planning for a unit to move is a continuous process. Planning begins long before the actual move, continues during the preparation for movement, and carries on until the move is completed. (See appendix E for a unit commander's checklist concerning unit movement planning.) A unit commander should start preparing his unit for a move upon assuming command. He should review any

existing movement plans, standing operations procedures (SOP's), and loading plans for completeness and correctness. If the unit is newly activated, or if no plans exist, the unit commander should initiate a movement plan complete with SOP's and loading plans. All types of tables of organization and equipment (TOE) units should have up-to-date movement plans regardless of unit status; for example, service school support units. For actions that a unit commander should concern himself with on a continuing basis, see paragraphs E-2 through E-6. The remainder of this chapter deals with actions that should be taken in preparing for a movement from CONUS to overseas. With modification, however, it may be applied for a movement to any area.

12-4. Warning Order

The first indication that a unit will move is the receipt of a warning order. Receipt of this order prompts the following actions:

a. The unit begins preliminary preparation for the move.

b. As appropriate, the overseas commander provides, through channels, equipment and planning information to the deploying unit which will include—

- (1) Oversea Army Post Office for deploying unit.
- (2) Authorized items which may be deleted from overseas shipment with the unit. (If unit is to move without its vessels, necessary steps must be taken at this time to begin preparation for turn-in.)
- (3) Items the overseas commander desires shipped with the unit.
- (4) Authorized stockage list and expendable supplies requirements.

c. For actions required to be taken by a unit commander on receipt of a warning order, see paragraphs E-7 through E-11.

12-5. Movement Directive and Movement Order

The next movement notice received by a deploying unit is the movement directive. This is the authority for the movement and the basis for appropriate action by all agencies concerned with the move. It is usually issued 90 days in advance of the deploying unit's personnel shipment readiness date. Based on this directive, the installation or activity issues a movement order to the deploying unit. The movement order implements the movement directive and adds any additional instructions deemed necessary to properly prepare the unit for the move. For actions required on receipt of the movement order, see paragraphs E-12 through E-15.

12-6. Unit Movement Plans

Unit movement plans contain up-to-date logistic data reflecting a summary of transportation requirements, priorities, and limiting factors incident to the movement of the unit by highway, water, rail, or air transportation. The contents of a movement plan may vary depending on the contingency status of the unit, guidance from higher headquarters, and the effort the unit commander puts into preparation of the plan. As a minimum, the unit movement plan should contain the following:

- a. A detailed listing of personal baggage, organizational equipment, and expendable and nonexpendable supplies in shipping configuration.
- b. The organization for movement; that is, the SOP for the movement staff, advance parties, quartermaster parties, and rear detachments.
- c. Procedures to be followed at home station, en route, and at destination.
- d. Unit loading plans (para 12-8). For a recommended organization of a movement staff for a company size TOE unit, see figure E-1.

12-7. Standing Operating Procedures

Many of the details relating to a unit move such as composition of the march units; duties of advance, accompanying, and rear detachments; convoy security (for motor move); and deployment procedures at destination should be included in one or more unit SOP's. Minor changes in SOP's may be required from time to time, but basically, procedures vary little from movement to movement. The preparation of SOP's covering the details of unit movements relieves the commander of the necessity for repeatedly planning and issuing directives for the conduct of operations which follow established patterns. A guide to the preparation of SOP's may be found in appendix F.

12-8. Unit Loading Plans

a. Unit loading plans include all the individually prepared documents which, taken together, present in detail all instructions for the movement of personnel and the loading of equipment. To ensure effective and expeditious movement of unit personnel and equipment, unit loading plans should be kept current at all times.

b. Initial unit loading plans and any updating of such plans should be submitted to the appropriate installation transportation office for approval. One copy of the approved plan is maintained in the appropriate transportation officer file.

c. Loading plans should be based on authorized or TOE personnel and equipment. They should also be modified to include supplies and equipment authorized by mission letters and movement orders when received.

d. The following loading plans should be prepared and maintained in each unit for anticipation for movement under contingency planning by the various modes:

(1) *Unit Loading Inventory and Checklist (Worksheet) (DA Form 2940-R)*. This form is prepared for each category of unit equipment. It provides a numerical listing of all packages and vehicles to be shipped.

(2) *Unit Vehicle Loading Plan (Worksheet) (DA Form 2941-R)*. This form is used when the unit moves to a terminal for oversea movement in organic transportation. It lists the personnel and packages to be transported in organic vehicles.

(3) *Unit Train Loading Plan (Worksheet) (DA Form 2942-R)*. This form is used when the unit moves by rail. The plan shows the proposed distribution of personnel and equipment based on the railcars tentatively available for the unit loading. It requires adjustment when an actual move is made and specific railcars are assigned.

(4) *Unit Air Loading Plan (Worksheet) (DA Form 2943-R)*. This form is used when the unit moves by air. To prepare this form, the specific type of aircraft must be known. It covers the type of cargo to be loaded in each aircraft, loading start time, estimated time to load, special equipment requirements, and other data pertaining to the specific aircraft.

(5) *Unit Estimate of Aircraft Required (Worksheet) (DA Form 2944-R)*. This form is used to determine the number and type of aircraft required to airlift a unit's equipment and personnel.

(6) *Unit Vessel Loading Plan (Worksheet) (DA Form 2945-R)*. This form is used by units assigned

a mission which requires a lift by a TOE transportation boat unit.

12-9. Operating Base Area Requirements

a. *General.* Each of the various types of Army water transport units requires an approximate sized field site within which it may set up its facilities and out of which it may be expected to perform its mission. The operational area requirements table offered in this manual (table 12-1) provides guidance to all levels of command, whether it be a planner developing requirements for the establishment of a base camp or a water transport unit commander preparing to select a field site suitable for his unit. It is emphasized that the area requirements established herein are offered for guidance; in actual operations the terrain, weather, operational requirements, existing facilities, and local directives must be considered and, where applicable will take preference over the figures and considerations in this manual.

b. *Types of Operating Base Areas.* From an operational viewpoint and considering requirements for dispersion of craft, vehicles, and facilities as dictated by the tactical situation, the operating base area requirements for water transport units are classified as—

(1) *Minimum.* This is the formal type of field setup or bivouac under administrative conditions (hostile action remote). Vehicles and amphibians are parked on line in the unit motor park; landing craft are anchored within a sheltered area or beached; tentage, both troop and administrative, is on line in designated areas. Only a minimum distance is maintained between vehicles and unit facilities.

(2) *Average.* This is a field setup or bivouac under tactical conditions where friendly forces have air superiority (possibility of hostile air attack is remote) but an approximate 50 feet (15 meters) dispersion between unit amphibians, vehicles, and facilities is maintained to offer protection against loss by hostile ground action including mortar/artillery fire. Landing craft can best be protected from attack from shoreside and waterside if craft are berthed together. If a mortar/artillery attack is imminent, craft can be dispersed at sea with a minimum of 50 feet between craft.

(3) *Maximum.* This is a field setup or bivouac which considers a dispersion of approximately 150 feet (50 meters) between unit amphibians, vehicles,

and facilities as protection against hostile air attack. It is also considered as normal dispersion (consistent with control of the unit) under nuclear conditions. However, in the event of *imminent nuclear attack*, craft will be dispersed at sea in pairs with a minimum distance of 150 feet between craft.

c. *Facilities Considered.* The facilities considered in determining operational area requirements for the various types of water transport units include, as applicable to the particular type unit, the following:

- (1) Unit command post.
- (2) Mess.
- (3) Unit supply area.
- (4) POL storage area.
- (5) Basic load storage area.
- (6) Amphibian park area.
- (7) Landing craft anchorage or beaching area.
- (8) Vehicle parking area.
- (9) Vehicle and amphibian maintenance area.
- (10) Troop bivouac area (two-man tents).

d. *Other Considerations.* In addition to the unit facilities considered, the following factors govern:

(1) Units are at full strength and have all authorized supplies and equipment; command and supervisory units have all tentage authorized.

(2) All assigned vehicles, watercraft, and personnel are in the area.

(3) Only authorized TOE equipment is on hand and used.

(4) No existing facilities (shops, billets, hardstands, etc.) are available or used.

(5) Overhead cover is sufficient to deter direct hostile observation.

(6) In the average and maximum areas indicated for the amphibian companies and the medium boat companies (table 12-1), operating platoon personnel are bivouaced in their respective platoon area, dispersed in the vicinity of their assigned craft. In the heavy boat company crews are berthed on board.

(7) Land area to be used has a relatively level and firm surface with a minimum of obstructions such as boulders, tree stumps, and ravines or creek beds; provides easy entry and exit to craft; is not so densely wooded as to obstruct movement of vehicles; and has, or will permit the establishment of, a suitable internal roadnet.

Table 12-1. Operating Base Area Requirements

	Square feet (approximate area in feet)					
	Minimum		Average		Maximum	
TOE 55-138, Light Amphibian Company	50,400 (225 x 225)		249,600 (500 x 500)		1,219,800 (1,100 x 1,100)	
TOE 55-139, Medium Amphibian Company	68,400 (260 x 260)		179,200 (420 x 420)		803,600 (897 x 897)	
	Land area	Water area	Land area	Water area	Land area	Water area
TOE 55-128, Medium Boat Company	42,200 (206 x 206)	85,500 (570 x 150)	141,900 (376 x 376)	85,500 ^a (570 x 150)	634,600 (797 x 797)	85,500 ^b (570 x 150)
TOE 55-129, Heavy Boat Company	12,600 (112 x 112)	124,800 (520 x 240)	59,700 (244 x 244)	124,800 ^a (520 x 240)	167,200 (409 x 409)	124,800 ^b (520 x 240)

^a Same as minimum. Craft can best be protected from attack from shoreside and waterside if craft are berthed together. If a mortar/artillery attack is imminent, craft may be dispersed at sea in pairs with a minimum distance of 50 feet between craft.

^b Same as minimum, except when nuclear threat is imminent craft will be dispersed at sea in pairs with a minimum distance of 150 feet between craft.

Section II. MOVEMENT BY SHIP

12-10. General

a. If the deployment is such that it is undesirable for the watercraft units to make the movement under their own power, they can be transported overseas by various types of oceangoing vessels. The movement will be documented in accordance with the provisions of DOD Regulation 4500.32-R, Military Standard Transportation and Movement Procedures (MILSTAMP), if the move is administrative and in accordance with FM 60-30 and FM 31-12 if the move is tactical. Loading plans for movement by ship are prepared based on the priority in which equipment and supplies will be needed upon landing, and the priority is based on the equipment need in the overall operation. When the far shore priority has been determined, the water transport unit commanders submit loading priority lists for their units to the headquarters responsible for conducting the movement. The water transport unit commander is responsible for having his troops, equipment, and supplies available for loading when and where the higher headquarters specifies. Landing craft, mechanized, Mark VIII (LCM-8's) and landing craft, utility (LCU's) usually are transported on landing ship, dock (LSD's) and amphibious transport, dock (LPD's). Amphibians usually are transported in LSD's, LPD's, and landing ship, tank (LST's). The watercraft may also be loaded along with personnel, vehicles, and unit equipment on naval transport vessels and conventional cargo ships for movement overseas.

b. LSD's and LPD's are the most suitable method of transporting landing craft and amphibians as they can be floated into and out of the well decks of these vessels. In addition, the LST is one of the most suitable transport means for the amphibians as the lighter, amphibious, resupply, cargo (LARC's) can embark and debark under their own power over the LST bow ramps (in the stream or when the LST is beached). When conventional ships are used, lighters must be loaded or unloaded by cranes. Other advantages to transporting watercraft overseas by LSD, LPD, and LST is that while en route, maintenance services and inspections can be performed on the watercraft in the well decks of the ships.

c. When a water transport unit is to be transported to destination by LSD's, LPD's, or LST's, loading plans must be provided for every ship. The completed loading plan for each vessel shows the—

(1) Individual craft, crews, and maintenance personnel embarked.

(2) Allocation of unit equipment and supplies aboard.

(3) Position of each craft in the ship. A copy of the stowage diagram showing the intended location of his craft is given to each operator before loading commences.

(4) Control procedures for embarking the craft.

d. The unit loading officer of the water transport unit to be embarked on the vessel, or one of his as-

sistants, meets with the designated ship's officer to arrange the details of embarkation. These include—

(1) Assignment of billets.

(2) Assignment of working parties.

(3) Stowage of fuel, lubricants, and maintenance material so that they will be available for craft maintenance en route to the area of operations.

(4) Organization of security details to be employed during embarkation and en route.

(5) Messing and other administrative procedures to be followed aboard ship.

12-11. Water Transport of Amphibians

Characteristics and capacities of individual landing ships of the same type or class vary to a considerable degree, and load plans should be based on the characteristics pamphlet for the specific ship involved. However, based on average capacities for each type of ship, the following loads may be used for general planning purposes. LSD: 30 LARC-5's or 20 LARC-15's or 5 LARC-60's; LST: 25 LARC-5's or 15 LARC-15's (one LARC-60 can be deckloaded on an LST and sideloaded aboard conventional shipping in much the same manner as heavy vehicles).

a. Loading Amphibians Aboard an LST.

(1) The LARC-5 should be positioned on an LST deck with its bow facing the bow ramp of the LST. The 1156 and 1171 class LST's are equipped with a turntable that allows the LARC-5 to drive bow first into the tank deck; the LARC is spotted on the turntable which is turned 180 degrees so that the bow of the LARC faces the LST bow ramp. Then the LARC is backed into position on the tank or main deck of the LST. Because the 500 class LST's are not equipped with a turntable, the LARC-5 is driven aboard, positioned with its bow aft, and driven off stern first.

(2) The LARC-15's size permits entry into 1156 and 1171 class LST's and the lighter is positioned on the decks with bow facing the bow ramp of the LST. The dimensions of the LARC-15 require entry on the LST by backing up the bow ramp stern first into position.

(3) The LARC-60 must be placed on the main deck of an LST by a heavy lift crane and side launched upon arrival at destination.

b. Loading Amphibians Aboard an LSD.

(1) If the water is rough, the LARC-5 is driven bow first into the well deck of an LSD. If the material loaded in the cargo compartment of the LARC-5 obstructs the operator's view aft, the LARC should

be backed into position so that the operator can have a clear view when leaving the LSD.

(2) The LARC-15 is loaded so that its bow faces the bow of the LSD. This gives the operator unobstructed visibility when the LARC leaves the LSD, regardless of the load carried by the amphibian. While the LARC is being maneuvered into position in the well deck of the LSD, the assistant operator stands on the forward part of the lighter in clear view of the operator and passes instructions through hand signals.

(3) The LARC-60 can be loaded in an LSD either bow or stern first. However, the normal procedure is to drive the LARC into the well deck using the forward land drive and four-wheel steering. Upon the LSD's arrival in the objective area, the operator maneuvers the LARC-60 into launch position in land drive, and, when it reaches the flooded area within the well deck, he engages marine drive astern. With the land drive in reverse and the marine drive engaged astern, the LARC-60 propels itself out of the well deck. The operator keeps the marine drive in the astern position until the lighter is clear of the LSD.

12-12. Water Transport of Landing Craft

a. An LSD can carry nine LCM-8's or three LCU's, and an LPD can carry four LCM-8's, or one LCU and two LCM-8's. Supplies and vehicles may be loaded into these craft before they are embarked. Landing craft should be equipped with a minimum of four mooring lines and one heaving line. Each of these lines must be at least 70 feet (21.3 meters) long.

b. Boat operators must be carefully briefed so that they understand the loading procedures and their part in the operations. While waiting to embark, LCM-8's are grouped in two waves at assembly areas about 100 to 200 yards (91.4 to 182.8 meters) from the port and starboard quarters of the ship. The port wave circles counterclockwise; the starboard wave, clockwise. Either the boat control officer or his representative, in a control boat or an LCM-8, supervises the movement of craft in the assembly areas and enforces the orders of the vessel control officer.

c. When the ship is open, ballasted, and ready to load, the Navy control officer calls in the craft, using a voice amplifier, flags, lights, or other signaling devices. Depending on the loading plan used, he may load all the boats in a wave at one time or he may call in craft alternately from each wave. The LCM-8's are loaded abreast in the well of the LSD or LPD, starting at the port side.

d. Operators of landing craft must exercise extreme caution when entering and leaving the well deck of the vessel and keep full control of their craft at all times until they are positioned and secured in place by mooring lines. Engines are normally kept running until the control officer directs that they be stopped. After embarkation is complete, the Navy control officer gives the order, "Stand by lines." Navy line handlers on the catwalk and all available crewmen within the craft take positions at the lines. The ship is then deballasted. If no previous order has been given, craft engines must be turned off before they lose suction. Navy crewmen assist the crew of each craft to make their craft secure for the voyage.

12-13. Preparation of Unit Equipment

a. *General.* Equipment to be carried on cargo vessels must be prepared so that it is protected from handling and weather damage and can be easily managed during loading and unloading. Instructions for preparing supplies, equipment, and vehicles are usually contained in standing operating procedures or in appropriate technical publications.

b. *Vehicles and Mobile Equipment.*

(1) If possible, all vehicles and trailers should be loaded with unit equipment or other supplies. This reduces the amount of cargo handling required on the beach. Loads must not extend beyond the maximum height or width of the vehicle in stripped condition. Fuel tanks should be three-fourths full to permit expansion and allow for splashing during transit. Vehicles should carry a reserve of fuel in 5-gallon cans and suitable amounts of engine oil, as well as individual combat rations for the drivers.

(2) Bows are removed from the tops of loaded vehicles and stowed in each vehicle, with the canvas top securely crosslashed over the load. This precaution protects cargo from the weather and prevents loss of contents if the vehicle is tilted during loading or unloading.

(3) Vehicles and other motorized equipment must be waterproofed before loading. Waterproofing procedure is described in detail in TM 9-238.

(4) Drivers and assistants are normally embarked in the same vessels as their vehicles so that they may service the equipment en route.

(5) Vehicles and equipment carried on the exposed decks of vessels must have headlights, windows, rearview mirrors, reflectors, and similar reflecting surfaces covered.

(6) Mobile generators should carry prefabricated lighting standards that can be erected quickly when illumination is required.

(7) All equipment is serviced before loading so as to be in the best possible mechanical condition. An adequate supply of repair parts must be provided.

c. *Unit Impedimenta.*

(1) All unit equipment must be covered or sealed to protect it from the elements. Any material that might be damaged in handling should be crated or packaged. However, packing and crating should not appreciably increase the weight and size of items. For specific instructions pertaining to crating, packing, waterproofing, and application of preservatives, see TM 38-230-1 (Volume I) and TM 38-230-2 (Volume II), and SB 38-100.

(2) Where practicable, boxes and crates should not exceed dimensions of 36 by 18 by 18 inches nor a weight of 40 pounds. Sizes and weights in excess of these add to difficulties when individual boxes must be handled over the beach. For ease in handling, stowage, and identification, general cargo, including the smaller items of organizational equipment and supply, will be unitized in triwall CONEX inserts or on 40- by 48-inch wooden pallets. Pallets are described in TM 55-513.

d. *Stowage Responsibility.* All stowage of cargo must be approved by the master of the vessel because he alone is responsible for the vessel and all cargo and personnel aboard it. When cargo is transported, lifted, or loaded by personnel not under his control, his responsibility for the cargo commences when it is safely stowed on board and accepted by him.

e. *Marking Equipment.*

(1) Detailed information concerning marking is contained in AR 220-10, AR 725-50, AR 746-1, TB 746-93-1, and MIL-STD-129. When the unit is combat loaded, all material must be marked to indicate its unloading priority number and the hatch and level at which it is to be stowed. For example, on a US Naval Ship, 13 3/2P means that the item has priority 13 for unloading and is stowed in hatch no. 3 on the second platform. On a merchant ship, an item with the same priority and stowed in approximately the same relative location would be marked 13 3/LTD to indicate hatch no. 3 at the lower 'tween deck level. These priority and location markings are placed on the top and on both sides of each item. Vehicles are marked with 9- to 12-inch numbers and letters on the top of the hood and on both sides of the cab. If the construction of a particular type of vehicle precludes marking in this manner, the vehicle will be marked conspicuously on the top and on both sides. Markings are made with white crayon or other waterproof material. Identi-

ifying marks should be placed on all items that will be needed promptly upon landing.

(2) In order to reduce pilferage, the outside packing list of packages containing such items as narcotics, maps, currency, and watches will contain a minimum of information.

(3) It is particularly important that any equipment that has been partially disassembled for loading be marked so that it can be loaded and landed as a unit to facilitate reassembly.

12-14. Personnel Movement by Ship

a. General. Personnel of the water transport unit who are transported by ship may be detailed to serve in various capacities (for example, mess assistants, inspectors, or guards or on fatigue details) as the commander of troops directs.

b. Training. The period of the voyage is used for a comprehensive training program aimed at insuring that troops are oriented, briefed, and rehearsed in the procedures to be followed in the area of operations.

(1) General shipboard training is supervised by the commander of troops. It includes—

(a) Aircraft recognition, stressing identification of friendly and enemy aircraft that may be encountered in the area.

(b) Map reading, emphasizing familiarization with the maps, charts, and aerial photographs to be used in the operation.

(c) Intelligence instruction covering indoctrination in the characteristics, customs, and languages of the area.

(d) A supervised physical exercise program to insure that troops are kept fit for their duties.

(e) Survival-at-sea training, including lectures, demonstrations, and practices.

(2) To make sure that debarkation will be rapid and efficient, debarkation drills are held during the voyage. Debarkation from LSD's is relatively simple, and drills can be conducted without greatly disturbing the routine of the ship. Boatcrews practice moving quickly to their assigned craft by prearranged routes. Drills should be conducted until the crews can take their places rapidly even in darkness. Personnel must be thoroughly oriented in the details of the unloading plan.

c. Orientation. During the voyage all personnel are briefed on the physical features of the area of operations. Training aids are helpful in orientation. Enlarged maps, aerial photographs, and relief maps are displayed in parts of the ship where they can be studied by the troops. These maps and photographs

show beaches, unit areas, command posts, and other features of the areas

d. Maintenance. When craft are deckloaded on transports, the period of the voyage is devoted to intensive maintenance. Since this is one of the few times when all watercraft are out of service, the underwater portion of the hulls and gear that are not normally accessible can be checked. The ship may be able to provide mechanics and equipment to assist personnel of the watercraft company in this maintenance work.

e. Inspections.

(1) Daily inspections are conducted jointly by ship and troop personnel. Unit commanders check to insure that—

(a) All weapons are clean and properly oiled and that all individual equipment is serviceable for field use.

(b) Troops are as clean and presentable as conditions aboard ship permit.

(c) Proper action is taken to replace any shortages of weapons or equipment.

(d) All personnel are wearing identification tags.

(e) Life preservers are being worn, if required, and are in serviceable condition.

(f) Troop compartments, heads, galleys, and bathing facilities are clean and well policed.

(2) Particular attention is paid to equipment stored in holds or troop compartments to insure that no damage is caused by salt air and dampness, shifting of cargo, or tampering.

(3) Vehicles will be checked daily as follows:

(a) Inspection of waterproofing.

(b) Examination for fuel and oil leakages.

(c) Inspection of shoring to see that vehicles and equipment are well secured.

(d) Inspection of tires.

(e) Testing of storage batteries for charge and water level.

(f) Cranking engines daily to insure that they are in good mechanical condition. Permission must be secured from the master of the vessel before the engines are started, and there must be adequate ventilation to eliminate exhaust fumes.

(4) Deckloaded craft are inspected to insure that they are properly blocked and lashed and fully protected from the weather. Tarpaulins must be checked carefully for holes or tears and to ascertain whether they are giving adequate protection. Craft must be kept in a clean and orderly condition and ready for operation.

(5) Craft on vessels are given daily checks for cleanliness and operating condition. Organizational maintenance includes inspection of batteries, oil and grease levels, and fresh water systems.

f. Final Preparations. Final preparations for debarkation are begun 24 hours before the vessels arrive in the area and should be completed in time to afford personnel as much rest as possible before the hour of debarkation. These preparations include—

(1) Inspection of craft, vehicles, and equipment for serviceability and readiness for debarkation.

(2) Inspection of each man for completeness of clothing, equipment, and supplies.

(3) Placing in their craft all equipment and supplies that can be preloaded. Other equipment is spotted at the proper loading stations. All equipment is secured to prevent damage or loss.

(4) Checking communication equipment for correct settings, serviceability, and waterproofing. Particular attention is given to the condition of batteries. When craft are to be lowered to the water and then loaded, arrangements are made to load fragile signal equipment at the rail of the ship before the craft are lowered. Tarpaulins and similar waterproof covers are provided to protect equipment during the ship-to-shore movement.

(5) Synchronizing all watches with ship's time.

(6) Feeding troops a full, hot meal for the last shipboard meal. (For convenience, rations for beach use may be issued at this time.)

12-15. Debarkation

a. From Transport Vessel.

(1) The commander of a transport vessel is responsible for debarkation. Upon approaching the area, the ship debarkation officer announces a condition of readiness for debarkation. Assigned crewmembers man the debarkation stations. These are locations at the rail of the ship from which troops and equipment are loaded into watercraft for the ship-to-shore movement. Troop personnel, grouped in watercraft teams, assemble in their compartments.

(2) As soon as the ship is anchored, unloading commences. Except for those craft to be loaded at the ship's rail before lowering, all craft are lowered and proceed to their designated assembly areas. On receipt of the readiness signal, commanders of

teams scheduled to land in the first wave of watercraft assemble their teams and inspect each man. As called, the watercraft teams move to their assigned debarkation stations and load into watercraft. Men and equipment to be loaded in later trips are called to report to their debarkation stations as soon as craft become available for the later trips.

(3) If heavy equipment is being loaded, the only personnel other than the crew who are in the craft during loading are those who guide the equipment and who remove the loading slings. After the equipment has been loaded, the remainder of the craft team debarks into the craft from the nearest debarkation station.

(4) Special care must be taken in unloading vehicles. When a condition of readiness is announced, all drivers report to their vehicles to make a final inspection while awaiting debarkation. Each driver remains with his vehicle in the hold of the ship until the vehicle is moved under the square of the hatch for hoisting. The drivers debark into the craft just before the vehicles are loaded to insure proper loading. As far as possible, vehicles are positioned in the craft according to priority of discharge at the beach. They are always loaded so that the front end of the vehicle is toward the bow of the craft. In order that the craft may beach close to the water's edge, vehicles are placed as far astern as possible and centered in the craft. As far as practicable, vehicles without their own power, such as trailers, are loaded into the same craft as their prime movers. Trailers are always loaded so that towing connections are toward the bow.

b. From LSD or LPD. About 8 hours before the vessel reaches the debarkation area, all personnel are alerted and told the tentative time they will be expected to man their craft. At least 2 hours before the time set for debarkation, all crews assemble in the craft. An hour before debarkation, final instructions on debarkation procedure and on the order in which the watercraft will debark are given by the Navy officer in charge of debarkation. After the ship is anchored and opening of the watergate is begun, all crewmen man the lines. As soon as the water level in the well permits, engines are started. Each craft stays secured until its number is announced by the debarkation officer. Lines are then cast off, and the craft leave the ship and go directly to the prescribed rendezvous area.

CHAPTER 13

INTERNAL DEFENSE AND REAR AREA PROTECTION (STANAG's 2079 AND 2113)

Section I. INTERNAL DEFENSE

13-1. Responsibility

a. Terminal Headquarters. The terminal headquarters is responsible for the internal defense of the operating and administrative area of the terminal (fixed port and/or beach). This defense will be planned in coordination with the responsible area support command commander. The planning for the terminal internal defense will include—

(1) A thorough analysis of actual and potential enemy threats.

(2) Analyzing the physical features of the administrative and operational areas to determine the best method for organizing the defense with available units.

(3) Determination of the most effective use of communications facilities to advance defensive capabilities.

(4) Coordination of plans with those of the next higher headquarters.

(5) Coordination with—

(a) Naval forces for harbor defense and defense against submarine attack.

(b) Air defense unit for defense support against air attack.

(c) Adjacent units for defense of flanks.

b. Water Transport Units. The internal defense of the company area of each water transport unit is the responsibility of the company commander. Each unit of the terminal is assigned a mission in the overall defense plan. The company prepares its plans based on the mission and other guidance provided by the battalion headquarters. The company commander must insure that all company personnel are familiar with the plan, that each person knows what his duties and specific responsibilities are as outlined in the plan, and that all personnel know the proper procedures for dispersal, concealment, and camouflage. He must know what defensive measures are to be taken during guerrilla, airborne,

chemical, biological, or nuclear attack. He should make sure that unit personnel are assigned and are familiar with specific duties with respect to unit defense. The commander should survey his operations and make plans to lessen the possibility and effects of an attack, using all means at his disposal. He should plan the action to be taken during and following an attack so that the unit may continue to perform its mission. His plans should be coordinated with the plans of adjacent units. The company has an estimated rear area protection (RAP) potential which includes furnishing personnel for rear area security and for area damage control (FM 31-85).

c. Battalion Headquarters. Battalion headquarters is responsible for keeping the company commander informed of the tactical situation and the enemy's capabilities so that he may determine the degree of dispersion required in the company area of operations. Likewise, the company commander is responsible for informing the battalion and adjacent units immediately about an attack on his unit. When an attack is reported, the company commander should report the type and strength of the attacking force so that assistance, if available and required, may be provided.

13-2. Internal Defense Plan

a. General. Since every situation cannot be foreseen, the plan for internal defense of the unit's area must include both active and passive defense measures and be flexible. This plan should reflect the assignment of individual responsibilities and provide for the strongest defense that can be achieved with the organic personnel and weapons available. It must be simple, clear, and capable of being understood by all unit personnel. One basic plan with alternate courses of action for meeting various types of attacks will generally be the most advantageous. Although the unit may be attacked by regular

enemy ground forces, the commander's main concern is defense against attacks by guerrillas, aircraft, and missiles.

b. Passive Defense. Because the company has a limited number of weapons and personnel, the company commander should rely heavily on passive defense measures. These measures include camouflage, concealment, cover, dispersion, light and noise discipline, communications security, and warning systems. Use of these measures will assist in preserving the operating integrity of the unit area and ensure combat effectiveness for decisive action against enemy attack.

c. Active Defense. Active defense measures block the enemy's attempts to gain information to engage in sabotage or to conduct subversion activities. The defense plan for the company area must indicate fields of fire, observation points, avenues of approach, and obstacles that will impede the enemy. Close coordination with commanders of adjacent units is necessary to ensure mutual support and assistance and facilitate the assignment of sentinel posts, formation of patrols, and determination of areas of individual unit responsibility and areas of joint responsibility.

d. Perimeter Defense. To help protect the company against surprise attack, a well organized and effective perimeter defense is needed. Each individual assigned to perimeter defense should be instructed in his mission, zone of fire, and area of responsibility. The following are factors necessary in effecting perimeter defense:

(1) *Warning system.* The key to the defense of the company area is an adequate warning system. It includes such items as telephones, radios, whistles, klaxons, observation posts, trip flares, sentinel posts, and patrols to control areas which could become locations for enemy observers.

(2) *Obstacles.* Certain natural obstacles near the perimeter defense line may be improved with some manmade obstacles. For example, streams, swamps, ravines, cliffs, and dense woods should be improved with the use of barbed wire, minefields, boobytraps, and roadblocks. These obstacles should be covered by weapons fire.

e. Vessel Security. The internal defense plan should include procedures for vessel security. Both active and passive defensive measures should be included in the plan to assure the security of the watercraft, the cargo, and the crews while at anchorage and while in operation along routes of travel. Recommended measures to be taken are as follows:

(1) *Anchorage security.* Watercraft should, except for emergencies, anchor in such predetermined anchorage areas as are designated by the unit commander based on running times en route, area security, the tactical situation, and intelligence. Vessels at anchor are particularly susceptible to attack. Standoff, small arms fire from river banks, small craft, swimmers, and floating mines are but some of the methods of attack that can be employed. The following are considered to be minimal defensive measures for a vessel at anchor. They may be altered by the unit commander or master concerned as he deems appropriate.

(a) Fire zones should be clearly established for each automatic weapon. Since a vessel at anchor will swing, changing its relationship to the shore, fire zones should be established relative to the vessel and not the surrounding land area.

(b) Vessels should anchor as near to darkness or after dark as is possible and depart at or before daylight as deemed necessary by the vessel master. Vessels should remain anchored for as short a time as possible consistent with good navigational and crew safety practices.

(c) Since an enemy will undoubtedly know the location of an anchored vessel, blackout conditions alone should not be considered a defense. Armed lookouts should be posted to keep the surrounding area under surveillance. Particular emphasis should be placed on the water area immediately surrounding the vessel. Illumination, preferably a spotlight, should be available to facilitate identification of an approaching object on the water. Use of spotlights should be limited to very short periods, preferably by turning a light on and off rather than showing one steady beam which might facilitate the aiming of enemy weapons.

(d) An enemy can be expected to use tidal currents to his advantage. Slack tidal conditions are best for swimmers to attempt an underwater approach on a vessel. Concussion grenades should be randomly dropped into the water at irregular intervals, with emphasis on periods of slack water and minimal tidal conditions.

(e) The part of a vessel facing the tidal current is most vulnerable to floating mines or camouflaged swimmers attempting to drift down on anchored watercraft. Small arms fire should be directed at all floating debris which will drift against or near the anchored vessel. An enemy sapper will observe his target for some time before attacking; his intention is to detect a pattern of defense. Prudent and irregular use of lights, grenades, and small arms is the best immediate deterrent available. Once a swimmer is in the water he has no way of

knowing if the small arms fire he hears is being directed at him. He does know, however, that every object approaching the vessel is being fired upon and that concussion grenades are being used. This type defense will deter a swimmer.

(2) *Presailing briefing.* After a vessel is committed to an operational mission, the vessel master and all crewmembers should be briefed by a qualified officer or warrant officer designated by the unit commander. A detailed, locally prepared checklist should be employed to conduct all watercraft personnel briefings. (See appendix K for a sample checklist.) The briefing should include as a minimum the following:

(a) Mission to include cargo, hazards involved, safety precautions, route to be followed, major landmarks, river and canal junctions to be encountered, and overnight anchorages and alternates.

(b) Weather, to include tides and seasonal monsoon problems that may be encountered. One source of weather information that may be used is the SEA SWELL/SURF FORECAST prepared daily by the weather center, theater commander, Naval forces.

(c) Communications to include frequencies, call signs, position reports and checkpoints.

(d) Intelligence and tactical information to include the current friendly and enemy situation. This briefing should cover the overall situation in the operational area but should specifically include the situation along the route of travel.

(e) Defense, weapons, fire support, and rules of engagement.

(f) Maintenance.

(g) Emergency procedures.

(h) Weather and tidal and monsoonal problems that may be encountered.

(3) *En route security.* En route security will depend on preparations prior to departure, a thorough knowledge of the current friendly and enemy situation along the route of travel, communications, area of operation, and river bank security. Watercraft should remain in communication with the nearest US security element.

(a) Vessel masters should be on duty when transiting isolated and critical points which require directional changes of harbor craft movement. Fifty percent of each boatcrew should be on watch at all times when watercraft is underway in delta or inland waterways.

(b) Harbormasters at ports along vessel routes will utilize all means available to gather in-

telligence for the purpose of updating vessel masters and crews. Liaison with tactical units in the area, including the Navy, will provide an input to the local intelligence picture. Vessel masters may also gain additional information from advisory teams, patrol boats, etc.

(c) Harbormasters should notify vessels by the most expeditious means available when intelligence information is received which may affect vessel operations or safety to include weather warnings. Caution must be exercised when in proximity of local national watercraft. These craft will not be permitted to come alongside and must be kept under observation at all times.

(d) While underway, watercraft should, where possible, avoid passing through floating debris which might conceal mines or other explosive devices and should also avoid passing close to river banks, river structures, or fish stakes that may conceal command detonated explosive devices.

(e) All vessels should carry sufficient weapons to provide adequate protection for vessel and crew. In addition, smoke, pyrotechnic, and illumination capability should be on hand for marking the vessel's location both day and night in the event that medical evacuation or tactical air support is required. Crew served weapons on each vessel should be cleaned, inspected, and operable prior to departure from port areas.

(f) It is essential that clearly defined rules of engagement are coordinated and followed. Rules of engagement must be coordinated with combat commanders in whose areas harbor craft operations are to take place. All rules must be understood in detail by all personnel down to the lowest level of command.

(g) Each vessel should have an established plan of reaction to hostile attack. Plans should be provided for all crew personnel before departure and rehearsed where possible.

(h) Units should have clearly established procedures for obtaining supporting fires and medical evacuation. These procedures are to be part of the standing operating procedure (SOP) and be aboard each vessel. All personnel should be able to call for supporting fires and medical evacuation.

(4) *Cargo security.* All personnel must be alert to prevent pilferage and sabotage, particularly if local nationals assist in loading or unloading. Items such as gasoline, food, clothing, post exchange and special service items, tires, tubes, automotive parts, beverages, and medical supplies are particularly susceptible to pilferage. If military police or other security guards are not assigned to guard cargo,

units concerned will be requested to furnish security personnel. When pilferage type cargo is being handled a guard will be assigned.

13-3. Defense Against Guerrilla Attack

a. Guerilla operations follow the same principles and methods of war as regular operations; only the application differs. Guerrilla warfare is a war of quick paralyzing blows followed by swift withdrawals. Guerrillas generally avoid pitched battles and seldom defend objectives. They try to hold the enemy's forces at a stalemate, deliberately delaying a decision. Once the enemy is engaged, they look for a quick decision and if it does not develop, they withdraw from contact. Their aim is to entice their enemy into a campaign that will demoralize him and consume his resources in futile retaliation. Besides seeking to destroy enemy personnel, guerrillas seek to destroy facilities that enable the enemy to operate. By attacking these facilities, which are normally lightly defended, they make the defender split forces. Dispersal of the defender's manpower is a primary objective of guerrilla tactics; this provides additional isolated weak spots for guerrillas to harass.

b. Water transport companies are normally part of a large organization and as such have their defensive roles assigned. This role varies with each situation. Unit watercraft may be employed to carry other personnel by a water route to encircle or cut off any attacking force, or the unit may be required to defend in place. No matter what the role, the unit commander must know how to combat guerrilla action. The fundamentals and tactics of defensive combat employed by frontline units are equally suitable for units combating guerrillas in the rear area. Defense against ground attack should include the following measures:

- (1) A warning system.
- (2) Assignment of defense sectors to the various elements of the company.
- (3) Familiarization of personnel with defense positions and duties.
- (4) Use of slit trenches and foxholes.
- (5) Assignment of personnel to specific positions and designation of an assembly point for a mobile reserve.
- (6) Fortifications to cover avenues of approach.
- (7) Camouflage discipline.
- (8) Coordination with adjacent units.
- (9) A plan for perimeter defense.
- (10) Frequent rehearsals and inspections of the defense system.

(11) Plans for destruction of materiel.

(12) Frequent test firing of crew-served weapons.

(13) Organization of firefighting crews.

(14) A medical evacuation plan.

c. The unit commander must make an estimate of the situation and plan accordingly. Further information on defensive measures and measures for combating guerrilla action may be found in FM's 7-30, 31-16, 31-20, and 31-21.

13-4. Defense Against Air Attack

a. Air defense includes all measures designed to nullify or reduce the effectiveness of an attack by hostile aircraft or guided missiles after they are airborne. All units are responsible for their own security against air attack although aircraft warning nets and air defense measures are installed and supervised by higher headquarters (FM 100-5).

b. Defense against air attack is conducted by both active and passive measures. The best defense against air attack is to prevent detection by screening company facilities from enemy view and dispersing facilities to minimize damage. Command posts and communications equipment should be protected by covered shelters, and foxholes and slit trenches should be provided for individuals. Emplacements for weapons and revetments and cuts for vehicles and other equipment afford concealment from air attack. The company commander should study the terrain of his area of operations to locate natural geographic features such as caves, steep hills, and cuts. He should ascertain the existence and condition of manmade structures such as air raid shelters, mines, tunnels, and other underground installations that can be used to protect personnel and materiel. In selecting specific underground facilities, the following factors should be considered:

- (1) More than one exit should be provided.
- (2) Ventilating systems and fresh air intake should be adequate.
- (3) A moisture control system should be provided.
- (4) Provisions should be made to prevent the sealing off or collapse of the facility.
- (5) Sufficient operating and storage space for personnel and supplies should be provided.

c. When necessary the unit may employ unit non-air-defense weapons against low altitude enemy aircraft. (See appendix G for procedures and techniques used in these activities.)

3-5. Defense Against Airborne Attack

Plans for defense against enemy airborne attack must be based on a sound knowledge and understanding of the characteristics of airborne operations and of the capabilities and limitations of enemy airborne forces. Immediate aggressive action by all units in an area under airborne attack is vital. Prompt aggressive action takes full advantage of the disorganization of enemy airborne forces incident to and immediately after landing. Defensive action alone offers no hope of success against strong determined airborne attacks. Each company-size unit should have a standing operating procedure to be followed in case of an airborne attack. For details on the characteristics and limitations of airborne operations and defense against airborne operations, see FM 31-16 and FM 100-5.

13-6. Defense Against Chemical and Biological Attack.

a. Defense against chemical attack is primarily based on the use of protective measures by individuals and units. Chemical agents can be delivered in massive volumes capable of producing rapid and complete coverage of a unit area in a very short time. Such massive delivery can result in personnel being exposed to the agent before they can put on a protective mask. Military situations, unit missions, duty requirements, and basic human needs will not permit personnel to remain totally protected against chemical agents at all times. The *mission-oriented protective posture* allows the commander options and compromises to assure the accomplishment of the unit mission with minimum risk of casualties. This posture requires personnel to wear individual protective clothing and equipment consistent with the chemical threat, work rate imposed by their mission, temperature, and humidity without unacceptably degrading their efficiency from the effects of heat, stress, and other factors affecting the senses. Details on chemical defense can be found in FM 21-40 and FM 21-41.

b. The basic protection against a biological agent attack is the wearing of the protective mask with the hood attached and the duty uniform with gloves. When operating in areas suspected or known to be contaminated with biological agents, all individual should wear the protective mask and decontaminate the clothing that was worn in the area when the situation permits. Personnel must be free from any unreasonable fear of contracting disease from a suspected biological attack. Sickness from a biological attack generally develops slowly and can usually be successfully treated. Unless symptoms actually de-

velop, all individuals must assume that they are not infected and must continue with their missions. Personal hygiene, immunization procedures, field sanitation, and other actions which aid good health are essential defensive measures against biological attack. Details on biological defense can be found in FM 21-40 and FM 21-41.

c. The chemical and biological defense training of a unit, of individuals in a unit, and the protection of a unit and its equipment against a chemical or biological attack are basic responsibilities of command. Unit SOP's should officially set forth the policies of the commander for operations in a chemical-biological environment.

(1) The unit commander is responsible for training individuals in proper fitting and use of protective clothing and equipment, preparation of the unit chemical-biological-radiological defense plan, training decontamination and other specialists, and insuring proficiency of all unit personnel in performing their duties in a chemical-biological-radiological environment with a minimum loss of efficiency.

(2) Technical advice and assistance on immunization procedures, field sanitation, and first aid are primarily a medical responsibility.

13-7. Defense Against Nuclear Attack

Although nuclear weapons have not been used tactically, sufficient tests have been conducted to determine their effect on units in various protective postures. As with any type of attack, surprise increases effectiveness. Timely warning of the enemy's capabilities and intentions and the immediate reaction of well trained personnel will result in fewer losses of both men and material.

a. Training for Nuclear Defense.

(1) Every military defense organization has the same objectives whether defense is against chemical attack, incendiaries, or high explosive bombs, and these objectives also apply to nuclear defense. These defense objectives are as follows:

- (a) To prepare the unit to meet attack.
- (b) To enable the unit to carry out its mission with minimum interference while under attack.
- (c) To minimize losses in personnel, equipment, and facilities.
- (d) To render such emergency assistance as may be possible to neighboring units and, when directed, to civilian installations.

(2) All personnel receive sufficient basic training in nuclear defense, beginning with simple instruction in basic bomb effect—that is, blast, heat, and radiation—and proper action to be taken be-

fore, during, and after a nuclear attack. This is followed by the training in individual protection, use of protective equipment, decontamination of personnel and equipment, and conduct in a contaminated area. Finally, each individual is taught the part he must play in the radiological defense of his unit.

b. *Precautions Against Fallout.* The protective mask is not required for defense against fallout. When radioactive particles in the air make breathing difficult or cause discomfort, a handkerchief or similar cloth placed over the nose can be helpful. If it is necessary to remain in an area having fallout, individuals should dig in quickly, remain covered until fallout stops, and sweep the area around foxholes. Crews of waterborne craft should arrange cargo and/or position themselves so as to have a maximum amount of dense material between them and the source of radiation; that is, the bank or shore. Watercraft should travel near the stream center or at the maximum distance possible from bank or shore. Contaminated watercraft and cargo should be hosed down with water and decon-

taminated when the situation permits.

c. *First Aid.* The only first aid required is that normal for burns and for injuries due to blast. Individuals should assist these casualties whenever possible. Nuclear radiation sickness does not appear until sometime after exposure to gamma radiation. Early symptoms of nausea and vomiting are followed by a latent period when symptoms disappear and the individual feels normal. If incapacitating symptoms follow the latent period, medical treatment must be provided.

13-8. Rehearsals

So that individuals may become proficient in performing their assigned tasks without hesitation or confusion, plans for defense of the unit area against nuclear attacks should be rehearsed frequently. The duties of key personnel should be made clear and alternates should be designated in case key personnel become casualties. Damage resulting from enemy air or ground attack will be minimized by an effective defense plan which is rehearsed frequently.

Section II. REAR AREA PROTECTION

13-9. General

Rear area protection (RAP) is a territorial command responsibility and includes those measures taken to protect the resources of the command from interruptions caused by enemy activity, sabotage, or natural disaster. The purpose of RAP is to prevent interruptions to combat support and combat service support operations. To accomplish this task, RAP is divided into two separate functions; rear area security (RAS) and area damage control (ADC). For more details see FM 31-85.

13-10. Rear Area Security

RAS includes measures taken to minimize the effects of an enemy attack, sabotage action, or the initiation of psychological warfare. These measures may be taken prior to, during, and after actual enemy action. Water transport units are not normally assigned RAS functions.

13-11. Area Damage Control

a. ADC consists of the *preventive* and *control* measures taken prior to, during, and after an attack or natural disaster to minimize the effects thereof and to aid in the continuation or reestablishment of combat service support. Units with ADC missions prescribed under an approved ADC plan continue

to operate under their unit commanders until the damage control plan is implemented. Upon implementation of the damage control plan, those portions of units which have ADC missions are directed and supervised by the assigned rear area operations center commander of the area support group. Water transport units may be called upon to provide squad or platoon size light rescue or labor teams. These teams meet the requirement for the many tasks requiring manpower in ADC functions. They can provide limited first aid, assist in extracting injured and trapped personnel from wreckage and debris, assist in fire-fighting operations, perform decontamination activities, and perform other limited ADC activities as required. (See appendix H for structure of potential ADC teams.)

b. The unit area defense plan should include measures for minimizing the immediate effects of mass attacks by nuclear weapons or the effects of natural disasters such as floods or tornadoes. Adequate defense measures preclude secondary damage to personnel, equipment, and installations by followup enemy action such as guerrilla or airborne attack. ADC measures within the plan include those taken prior to, during, and after such attack or disaster.

(1) Measures taken prior to an attack or dis-

aster include—

- (a) Adequate advance planning.
 - (b) Organizing, equipping, and training damage control personnel.
 - (c) Organizing, equipping, and training an area defense force.
 - (d) Provisions for dispersion and concealment.
 - (e) Use of natural cover or protection afforded by terrain features.
- (2) Measures taken during and immediately following a mass destruction attack or natural disaster include—
- (a) Control of both military and civilian personnel and traffic.
 - (b) Action against both guerrilla and airborne enemy.
 - (c) Fire prevention and firefighting.
 - (d) First aid and evacuation of casualties.
 - (e) Protection against CBR hazards which includes evacuation of personnel from heavily contaminated areas.
 - (f) Distribution of emergency food, clothing, and water supplies.

(g) Disposal of unexploded ammunition supplies.

(h) Initiation of salvage operations and clearance of debris and other obstructions from roads and installations so that normal operations may be resumed.

13-12. Demolition

A command responsibility, demolition is usually accomplished on orders from higher headquarters and only as a last resort. When so directed, the company commander establishes a plan for the rapid and thorough destruction of buildings, equipment, supplies, and records. The plan must provide for rendering unserviceable all equipment and supplies that might be used by the enemy, and it should include priorities for demolition and methods of destruction. If explosives are to be used, the plan should show the type and amount and the placement of each charge. Each equipment operator must be familiar with the essential parts of the item of equipment he may be required to destroy. To make cannibalization by the enemy impracticable, the same part of all like equipment should be destroyed. (See appendix I (STANAG 2113) for destruction priorities.)

Section III. OPERATIONAL SECURITY

13-13. Requirement

Operational security is a prime requirement for all headquarters and operating units. Each organization should maintain continuous surveillance of its operations to insure that their activities do not provide intelligence to the enemy. Successful enemy exploitation of friendly stereotyped patterns of activity and associated communications have been detected in past operational security surveys. Examples of specific sources of information or indication of activities identified by prior operational security surveys are listed in the following subparagraphs:

a. Operational Indicators.

- (1) Stereotyped patterns of reconnaissance activity.
- (2) Stereotyped patterns of attack (ingress and egress) against specific types of targets or targets in a particular location.
- (3) Stereotyped times of preparatory airstrikes and artillery fire in relation to the attack by ground or amphibious forces.
- (4) Stereotyped sequences of events comprising the various phases of an operation.

(5) Coordination with civil agencies which do not have proper safeguards for classified information; for example, air traffic control procedures and coordination of convoy movement.

(6) Prevention of pilferage, smuggling, or sabotage activities by stevedores during cargo movement at ports.

b. Sources of Information for Human Intelligence Collectors.

- (1) Subverted allied military or indigenous civilian personnel.
- (2) Public information releases.
- (3) Posting of operations orders, flight plans, schedules, etc., in insecure areas.
- (4) Distinctive emblems or paintings on vehicles and aircraft.
- (5) Identification of recipients of supplies being shipped to support an operation along with operation nicknames, delivery deadlines, etc.
- (6) Logistic buildups and prepositioning of supporting materials and facilities.
- (7) Special religious services just prior to operations.

c. Sources of Information from Communications Activities.

(1) Plain language communications covering an entire spectrum of activity associated with planning and preexecution phases of operations.

(2) Use of unchanging or infrequently changing call signs and/or call sign suffixes by combat elements and those supporting elements which are active only when an operation is imminent.

(3) Stereotyped message characteristics such as precedence, addressee patterns, message lengths, codes, or cryptosystems which are unique to preoperations activity.

(4) Use of unchanging frequencies and repetitive use of specific frequencies in given operations areas.

(5) Movement and/or checkout of communications equipment in operations area prior to commencement of operations.

(6) Significant increases and/or decreases in the volume of enciphered communications (not protected by traffic flow security feature).

(7) Transmission at times when communications are not normally active.

(8) Use of unauthorized codes; that is, home-made.

(9) Use of brevity codes in the belief that they provide security.

(10) Use of authorized codes which provide only 24, 48, or 72 hours protection for encoding information of longer term security.

d. Defense Against Electronic Warfare. Water transport units rely heavily on the ability to communicate by radio. The enemy may use electronic warfare (EW) to degrade or destroy this ability. Defense against EW is provided through adherence to communications security procedures and through the application of electronic counter-countermeasures (ECCM).

(1) Communications security provides protection against enemy attempts to derive the necessary technical data required to conduct electronic countermeasures (ECM).

(2) ECCM provides defense against enemy ECM; that is, jamming and deception. Details on ECM and ECCM are contained in FM 32-20 and FM 24-18.

CHAPTER 14

TRAINING

Section I. UNIT TRAINING

14-1. Objective

The prime objective of training is to produce a well-trained, integrated company ready for field duty. The company must coordinate its efforts with the efforts of other units of the battalion in performing its mission. It must be brought to a high state of readiness through an intensive, thorough, and rapid training program. Training of water transport units is governed by Army Training Program (ATP) 55-111, listed in DA Pam 310-3. The training proficiency of the unit is determined by the appropriate Army training test (ATT) listed in DA Pam 310-3.

14-2. Responsibility

Training of a company is controlled by a battalion training program which is directed toward a specific training objective usually determined by higher headquarters. The company commander supervises and directs the training of his unit toward that objective. He sees that prescribed training assignments are completed and that training schedules and required status reports are prepared and submitted. Training within the unit must be carefully planned and closely supervised. Training facilities available to the unit must be exploited to the maximum so that the highest proficiency can be attained. Individuals must be trained in their military occupational specialty (MOS) through a carefully developed and well-coordinated program involving unit schools, service schools, and on-the-job training. The training program should be designed so that platoons and sections operate under their own leaders.

14-3. The Training Cycle

a. Training is coordinated and accomplished through completion of a training cycle. This cycle begins with the basic training of the individual and advances successively through phases of individual and unit training. The ultimate goal is the suc-

cessful completion of an ATT by the unit. Training does not stop with the ATT. On completion of the ATT, the unit begins its postcycle or operational readiness training.

b. The minimum training requirements for water transport units are established in ATP 55-111 and current Department of the Army mobilization training programs and training directives. The publications provide the commander a guide outlining the essential training required for a balanced training program.

c. Training should be continuous and comprehensive. It should produce an efficiently functioning organization capable of sustained operations under varying conditions. All individuals must be trained both as soldiers and technicians.

14-4. Training Coordination

All unit training must be coordinated with the program of the next higher command to insure adequate preparedness in conformance with established schedules. The company commander's planning responsibilities involve making the necessary adjustments and performing the administrative details to meet requirements of the local training situation (FM 21-5). He supervises the preparation of weekly training schedules showing training to be accomplished each day, subjects to be covered with appropriate references and training aids, instructors for specific training periods, times and training areas, and designation of uniform and equipment requirements. The unit commander is responsible for all aspects of the training of his unit. In planning, he must ensure that appropriate texts and training aids are available, that suitable training areas are available, and that an effective program is initiated for selecting and training instructors.

14-5. Individual Training

The individual training part of the unit training

program is accomplished in two phases: basic combat training and advanced individual training, each 8 weeks in duration.

a. *Basic combat training* prepares the untrained unit filler for integration into an operating military unit as an essential element of that organization. This training covers such subjects as first aid, drill and ceremony, military courtesy, military justice, care and use of individual weapons, and the fundamentals of combat tactics. Personnel must complete the basic combat training phase prior to beginning the advanced individual training phase. Although this phase of training is normally completed before the soldier is assigned to a unit, the commander must be assured, through tests and inspections, that a high degree of proficiency in the basic subjects is maintained throughout the unit. This may require scheduling periods of retraining and concurrent basic combat training as prescribed in ATP 21-114. The importance of individual proficiency to transportation personnel increases in direct proportion to the requirement for increased dispersion of water transport operations and the reliance on personnel to perform assigned duties with a minimum of supervision.

b. *Advanced individual training* prepares an individual in subjects and skills he must know to effectively perform in a specific duty or function MOS in a table of organization and equipment (TOE) position. This training may be conducted in unit schools, by on-the-job training, or in specialist courses conducted in residence at Army service schools.

14-6. Unit Training

The objective of unit training is to develop a closely knit organization capable of performing as a highly efficient team in accomplishing the unit mission. Individual skills should be refined, and emphasis should be placed on practical training in operations rather than classroom presentation of instruction. The training is progressive in nature, consisting of a 5-week basic unit training period and a 2-week advanced unit training period.

a. *Basic Unit Training* is designed to develop individual skills and techniques previously learned and to apply them to section and team functions with the objective of producing a unit capable of performing its TOE mission.

b. *Advanced Unit Training* emphasizes the efficient accomplishment of water transport missions under difficult field conditions. The unit operates in the field with its organic equipment. Every available aid is employed to add realism to this phase of training. As unit training progresses to its final

stages, field exercises in conjunction with operating terminal service units will simulate operations under the most adverse conditions. Aggressor attacks, guerrilla operations, sabotage, and conditions of nuclear warfare are simulated to impress unit personnel with the importance of adequate security measures, defensive organization, and proficiency in basic military tactics. Training in field expediency, salvage and recovery operations, and improvisations should be conducted concurrently to develop the unit's capability to perform its primary mission.

14-7. Army Training Test

The ATT is the culmination of the training cycle. It is a controlled 3-day field problem conducted under simulated combat conditions to evaluate the ability of the unit to perform its assigned mission and to measure the degree of ability of the individual soldier to perform the minimum skills requisite to success in combat.

14-8. Operational Readiness Training

a. An operational readiness cycle for a unit will follow the satisfactory completion of an ATP and an ATT. The training cycle will be of 13 months duration and has the following objectives:

(1) Correcting deficiencies noted during the individual training, unit training, and training tests.

(2) Developing and maintaining the unit at a peak of operational proficiency.

(3) To train units for specific operational missions through the conduct of field exercises and maneuvers.

b. Operational readiness training (ORT) generally consists of those mandatory subjects established by Armywide directives and regulations, with subject material, as directed by higher command echelons, which is applicable to the mission and operation of the unit undergoing training.

c. Units engaged in ORT undergo testing comparable to that received in an ATT. This ORT test, generally of a 24-hour duration, is administered on completion of the ORT cycle. The ORT test follows no established pattern. The major commanders responsible for administering the test may also exercise their discretion in deciding which portions of the ATT should be included in and/or emphasized in the ORT test. The test will be designed to evaluate both the technical and tactical aspects of the proficiency of the unit being tested.

14-9. Troop Unit Schools

Troop unit schools may be conducted at battalion level when personnel of subordinate units are

trained in groups, or the schools may be conducted within the individual units themselves. Factors used in determining the type of troop unit school to be conducted are the availability of qualified instructors, number of personnel to be instructed, and the location of units. In troop unit schools, the commander of the unit conducting the school is responsible for the training conducted in the school. A prime example of the terminal battalion level unit school is an amphibian operator training and testing facility which may be conducted by a terminal battalion for its subordinate amphibian companies. The availability of such a facility relieves subordinate commanders of the requirement to conduct amphibian operator training in the unit and assures a uniform training program for all potential operators.

14-10. Noncommissioned Officer Training

Noncommissioned officers should be able to instruct in the field in which they are technically qualified. They should be given the opportunity to exercise command functions so that they may develop leadership qualities, initiative, and a sense of responsibility. Troop schools, such as those set up by local organizations or higher headquarters, are useful in instructing noncommissioned officers in the duties and responsibilities of their grade and in teaching them correct methods and procedures. Noncommissioned officer training may be carried on during duty hours and in off-duty classes.

14-11. Cadre Training

All units will maintain an informal cadre of personnel who are cross-trained so they may fulfill the responsibilities of key positions in the unit with minimum interruption in the event all or a portion of the personnel assigned to key positions are transferred or are temporarily absent from the unit.

a. Cadre Selection. Before being designated as a member of a cadre, an individual so designated should be thoroughly trained and should be qualified both to perform his duties and to aid in the training of the company. The company should divide the cadre into two groups, each containing

senior and junior cadre so that the transfer of one group will not deplete the ranking organization nor the newly formed unit of experienced personnel.

b. Special Cadre Training. Training of cadre understudies should be aimed at producing alert, aggressive, and energetic individuals with an overall knowledge of the specific fields covered in the training and operation of a company. To produce the best instructors for cadre assignment, special emphasis should be placed on training in methods of instruction.

14-12. Counterguerrilla Warfare Training

Training for operations against guerrilla forces must be integrated into all phases of the normal training program for all units. Individuals must be thoroughly indoctrinated and trained to understand that the primary difference between the tactics and techniques of conventional warfare and those of counterguerrilla warfare is the nature of opposing forces. Unit training must emphasize that units may be required to conduct operations against guerrilla forces operating independently. In addition, all units must be prepared to conduct operations against conventional forces supported by an active guerrilla effort. Units must be trained to be constantly alert to the possibility of guerrilla attack against command, combat service, and combat service support elements.

14-13. Training Operations

It must be recognized that training operations depend on local facilities and a number of variables including training status of the unit, status of equipment, and time available for training. Unit training programs should therefore be developed with priorities assigned to those elements considered essential to unit proficiency. Mobility test exercises should also be considered. These may be conducted by higher headquarters to observe and evaluate actions by organizations and units in implementing readiness plans. These test exercises supplement ATT's which are conducted to evaluate the proficiency of the unit, and also supplement field exercises conducted as a part of the normal training program.

Section II. TRAINING FOR SPECIAL OPERATIONS

14-14. General

The postcycle or operational readiness training phase may include a requirement to train for a special operational mission. The training will emphasize procedures for conducting a particular operation such as an amphibious, logistics over-the-shore

(LOTS), or riverine operation in a particular area, possibly under special operating conditions as night landing operations or operation in the arctic and tropics. The subjects emphasized will depend on the probable employment of the water transport units in future operations.

14-15. Preoperational Training

Assume, for example, that the special operation for one of the water transport units is to participate in an amphibious operation. When employed in amphibious operations, water transport units are initially attached to and train with the engineer amphibious unit providing shore party support to the landing force (FM 5-144). As an entity, the amphibious operation includes five phases: planning, rehearsal, embarkation, movement, and assault. Training by the water transport unit for the special operation begins in the planning phase. A minimum of 60 days is desirable to train troops who have had no previous shore-to-shore experience. Refresher training is also required for experienced troops, and replacements who have joined units since the last operation must be trained to the required standards of proficiency.

14-16. Responsibilities

a. The engineer amphibious unit (brigade, group, or battalion) with attached water transport units is responsible for a training program that will integrate the task organization (shore party) into an efficient team. Normally, this will begin at least 45 days before embarkation.

b. Under the direction of the commander of the parent unit, the water transport unit commander is responsible for training his unit to meet the requirements of the projected operation. Usually, he receives from higher headquarters a complete and approved training program covering the entire planning (preembarkation) phase. The training program will have been prepared with advice and assistance from him and his staff.

14-17. Training Considerations

In establishing the training program for a special operation, the following must be considered:

a. Training requirements and exercise commitments assigned by higher headquarters.

b. The status of training of the unit and/or its components.

c. Availability of watercraft considering high level maintenance and repair parts requirements.

d. Basic unit training for newly acquired personnel.

e. Coordinating training requirements with other units participating in the special operation.

f. Availability of training areas and facilities.

g. Requirement for extensive night training.

h. Requirement for integrating all facets of the unit into tactical and technical operations.

14-18. Training Exercises

a. *Preoperational Training.* Preoperational training in the planning or preembarkation phase is given in both shore-based and craft-based training. Shore-based training is directed toward teaching each individual tasks he must perform in the tactical landing or the logistic phases and toward developing teamwork among all elements of the force. Craft-based training acquaints the individual with the embarkation routine and provides for practical application of subjects covered in the shore-based phase. The subjects of particular importance that should be covered in preoperational training appropriate to the training status of the specific units include the following:

(1) Organization of the shore party and relationship of water transport units to overall task organization.

(2) Marshaling and embarkation procedures in assault shipping.

(3) Reconnaissance of the beach as pertains to water transport units.

(4) Familiarity with shipboard routine and duties.

(5) Debarkation and ship-to-shore movement.

(6) Organization of the beach.

(7) Use of beach markers and beach lights.

(8) Marine communications.

(9) Shipboard emergency drills.

b. *Shore-Based Training.* All training that does not require landing craft is conducted in the shore-based phase, including indoctrination, individual and unit training, refresher staff training, and training at special schools. Shore-based training is generally conducted through the use of mockups and similar training aids; however, if sufficient watercraft are available, they should be used for unit problems.

c. *Craft-Based Training.* After the shore-based training is completed, craft-based training begins under the direction of the landing force or other appropriate headquarters. Units conduct debarkation, abandon-ship, general-quarters, air defense, and administrative drills. Advanced training includes shore-to-shore landings.

14-19. Training Facilities

In conducting training with any of the Army landing craft or amphibians, the following natural facilities offer a desirable training site for LOTS operations:

a. A sand beach with a frontage of not less than 1 statute mile (1.6 kilometers) and a minimum slope of 5 percent under water.

b. A normal surf (between 2 and 6 feet (.6 to 1.8 meters)).

c. An offshore area or small harbor providing anchorage and wharfage for landing ships and craft, preferably with entrance and anchorage depths of not less than 21 feet (6.4 meters) and with an an-

chorage area of at least a 500-yard (457-meter) radius. If entrance and anchorage depths of 21 feet (6.4 meters) or more are not available, a depth equal to the loaded draft plus 2 feet (.6 meter) at low tide is allowable.

d. A beach free from surf action for craft maintenance, with a 300-foot (91.4-meter) frontage for each terminal battalion size operation.

e. An area near the beach for housing and training.



CHAPTER 15

SAFETY

15-1. General

Injuries and accidents can seriously hamper unit operations. Prevention of injuries and accidents must be a primary goal of any unit commander. An effective safety program must be established to accomplish this goal. The program must be designed to impress unit personnel with the importance of constant vigilance to detect potential hazards and that prompt remedial action must be taken to reduce or eliminate the hazard. The program must provide for indoctrinating unit personnel in safe working aspects of all operations, taking into particular consideration conditions peculiar to water transport operations. Implementation of the program includes establishment of a safety organization consisting of a unit safety officer responsible for supervising and coordinating all safety activities within the unit and a safety committee consisting of platoon leaders and section chiefs. This committee should meet at regular intervals to discuss measures for reducing accidents, eliminating hazards, and improving safety practices. The program should be based on the provisions of AR 385-10 and must receive the personal attention of the unit commander.

15-2. Responsibilities

a. Commander. The unit commander is responsible that all activities of his unit are conducted in accordance with established safety rules, for determining causes of accidents, and that corrective action is taken immediately to prevent their recurrence. He must be aware of and enforce all safety regulations promulgated by higher headquarters. When a deviation from an established safety rule is desired, it is the responsibility of the unit commander to request permission to deviate from the rule. This request, including full particulars and detailed plans and specifications, is submitted to the appropriate headquarters. The unit commander cannot rely solely on programs of higher headquarters to assure the safety of his men—he must have his own rules, his own safety program. In the absence of specific safety rules, sound judgment must prevail.

b. Supervisors. Platoon leaders, section chiefs, and vessel masters exercise direct daily supervision over operating personnel. In their daily contacts with personnel on the job, they are in a position to personally witness daily working conditions, the potential hazards to which operating personnel are exposed, and how effectively accident prevention measures are applied. They should have frequent scheduled meetings to brief their personnel on safety procedures, to elicit suggestions on improving safety practices, and to publicize any newly adopted safety procedures. Such meetings should be held in the work area and the agenda for such meetings should include the following items:

- (1) The overall job and the end result expected.
- (2) The why, how, and when of the job and any ideas from the group concerning improvements of methods and procedures.
- (3) The part to be played by each man. The supervisor must make sure that each man understands his assignment.
- (4) The existing and anticipated hazards and the steps that should be taken to cope with these problems.
- (5) The need for prompt reporting of all injuries, accidents, or near accidents and the importance of first aid when such action is required.
- (6) The need for constant vigilance to detect and correct unsafe practices and conditions so as to prevent accidents and injuries.
- (7) The establishment and implementation of definite routine safety inspection systems.

c. Individual Responsibility. All personnel should be made to realize that safety rules have been established for their protection and welfare. It is their responsibility to follow all instructions and to use all the safeguards incident to the use of tools, machinery, equipment, and processes. Cooperation between and among vessel operators, engineers, platoon leaders, and section chiefs in the development and practice of safe working habits is essential to prevent injuries to personnel and damage to material and facilities. The effective unit commander

will strive to assure that this spirit of cooperation prevails in his unit.

15-3. Principles

An effective safety program will depend on the proper application of the following principles of accident prevention:

a. Creation of Active Interest. The emphasis on safety in water transport units must be vigorous, continuous, and instilled by the unit commander. The best safety program in existence will soon deteriorate unless every man in the unit is kept actively interested and willingly participating in the program. Interest in safety should be maintained by appealing to the pride of all unit personnel, pointing out the responsibilities they have to themselves and to the unit. Any suggestions on the improvement of safety operations should be carefully considered and the individual making the suggestion should be given credit if the idea is adopted, or an explanation if the suggestion is impractical. Supervisory personnel should develop an awareness of the effect of accidents on efficiency and productivity. Interest in the safety program can be effectively maintained by providing facts and figures to illustrate how accidents can affect the operations of platoons and sections and, conversely, how increased operational demands on watercraft can increase the frequency of accidents.

b. Factfinding.

(1) This principle refers to the assembling of essential information bearing upon accident occurrence and prevention. With regard to each accident, the following facts should be determined:

- (a) Who was injured or what was damaged.
- (b) The time and place the injury or accident occurred.
- (c) The severity and cost of the injury or accident.
- (d) The nature of the accident or injury.

(2) For accident prevention purposes, it is necessary to supplement the above information with facts concerning the how and why of the accident; in particular, the specific unsafe act committed, if any, along with the reason for its commission and the nature of any specific mechanical or physical hazard if one existed. If a tool or piece of equipment was a contributing factor, it should be determined whether the proper tool or piece of equipment was being used, whether it was being used properly, and whether it was defective.

c. Corrective Action Based on Facts. Any corrective action that is adopted should be based on available and pertinent facts surrounding the particular

15-2

accident or injury. In addition to accidents, near-accidents must also be reported, along with all available information, so that existing hazards and unsafe procedures or conditions can be eliminated. Similarly, any procedure or condition which might constitute a threat to safety should be reported so that remedial action can be instituted. It has been proven that some individuals are accident prone. If experience indicates that the same individual is repeatedly an accident victim, he should be placed in an assignment where he is least likely to endanger himself or others.

15-4. Safety Standing Operating Procedure

Some of the elements that should be included in a water transport unit safety standing operating procedure (SOP) are:

a. Designation of a safety officer and committee and their duties.

b. A definite procedure for reporting accidents. The procedure should emphasize promptness and completeness of reporting all accidents or injuries, no matter how slight. (For details see AR 385-40.)

c. A special reporting procedure when marine casualties occur. AR 55-19 provides the detailed procedures for reporting and investigating marine casualties.

d. Determination of cause through investigation of all injuries and accidents and procedural steps for corrective action to prevent recurrence.

e. Emergency shipboard duties and drills. Watercraft must operate under varied conditions and circumstances of climate, tide, current, and harbor limitations. Therefore, emergency procedures and shipboard drills must be included in the safety SOP so every crewman will be trained and skilled in his duties to keep the craft afloat and prevent cargo from being damaged and fellow crewmen or passengers from injury or possible loss of life. The emergencies that would most commonly be considered are fire; collision; man-overboard; abandon-ship; handling grounded watercraft; ground tackle and jury rigging; and chemical, biological, and radiological defense measures. (For detailed guidance in drill procedures, see TM 55-501.)

15-5. Special Precautions

Most operations with watercraft, whether at the pier or beach, on land for amphibians, or in the water are hazardous. Water operations can be particularly dangerous due to adverse weather, operational task hazards, and enemy action. The vessel's efficiency may also be seriously curtailed by the carelessness of a crewman who permits dangerous conditions to

exist or fails to repair faulty equipment. The following precautionary steps should be taken to prevent accidents and should be included in the safety SOP.

a. Shipboard Safety. Accidents on board ship most frequently result from falls, explosions, falling objects, faulty electrical equipment, and lack of protection for the eyes. Safety rules that protect life and assure the safety of the vessel are of major importance to crewmen.

(1) On some watercraft crewmembers must wear lifejackets except when in the engineroom, in the cab as a driver (amphibious), or in the bridge-house handling the wheel.

(2) Crewmembers should be accomplished swimmers and qualified in lifesaving techniques.

(3) Anyone moving or standing on deck should watch his footing and exercise care to avoid accidents. All lines on deck should be made up in such a manner that no one can get tangled in them or trip himself.

(4) The bilges should be checked regularly to make sure that the lighter is not holed or taking on water through the hull connections. Also the presence of fuel or fuel fumes in bilges may indicate a potential fire hazard and must be checked immediately.

(5) When performing grinding, chipping, or scraping operations, crewmen should use clear, shatterproof safety goggles.

b. Clothing.

(1) All crewmembers should wear safety-sole deck shoes as water and oil combined on a deck can be more slippery than ice. Any oil spilled must be cleaned up right away.

(2) When working around machinery, crewmembers should not wear loose clothing which may be caught in the machinery. If sleeves are to be rolled up while working on machinery, they should be rolled up at least to the elbow.

c. Handling Lines.

(1) Lines should be whipped with sailmakers' whippings. Back splices and other end rope knots may cause severe injury if run through the hand quickly.

(2) The cargo decks should be kept clear of unnecessary lines.

(3) When handling wire rope and mooring lines, wear gloves to protect the hands.

d. POL Products.

(1) Oil and grease spillage should not be allowed to accumulate on decks; spillage should be

wiped up as it occurs. Bilges should be kept clean of oil and other POL products to reduce fire hazard.

(2) Approved nonvolatile cleaning agents should be used for cleaning purposes, not gasoline.

(3) When fuel is being received on board, no bare light, lighted cigarettes, or any electrical apparatus that has a tendency to spark should be permitted within 50 feet of an oil hose or fuel tank. Use only sparkproof tools to connect or disconnect fuel lines.

e. Storage and Ventilation. Shelves should be neat, orderly, clearly marked, and secured for sea to prevent objects from falling. Closed compartments must be well ventilated to reduce rust, corrosion, and mold damage. Musty odors indicate a lack of ventilation. Gasoline, oil, paint, and other flammables should be stored only in approved locations and in containers authorized for this purpose. Oxygen and acetylene bottles must be stored separately from other flammables. In all shop areas, volatile fumes of many types can be the cause of fires. Use of authorized solvents and cleaning materials, proper containers, and good ventilation in these areas will tend to reduce the possibility of fire.

f. Firefighting Equipment. Particular attention should be given to all the firefighting and damage control gear aboard. The equipment must be serviceable and operational, and crew members must know its location and how to operate it. Frequent inspections must be conducted to insure that the equipment is serviceable and operable.

g. Fire Prevention. "No Smoking" signs should be posted wherever potential fire hazards exist. Smoking should be permitted only in designated areas.

h. Cargo Operations.

(1) Special attention should be given to the proper loading, blocking, and securing of vehicles to be carried in the lighters. This is the responsibility of the vessel master, and must be inspected prior to movement.

(2) Dropping or toppling of loads onto a lighter deck is to be avoided. Doing so will invite damage to the cargo and the lighter and cause personnel injuries. For safe handling, damaged palletized cargo should be recooped or rebanded before being loaded aboard. Leaky barrels should be plugged and the ends reversed if possible.

(3) Personnel must be warned never to stand beneath a draft of cargo or get between the draft of cargo and a bulkhead or other cargo. Personnel must be warned never to pull a cargo draft into position as they might slip and fall underneath the draft. Always push the draft into place.

(4) Crew members and terminal service personnel should watch for projections and loose bandings of cargo, frayed wire on cargo slings, and bridle hooks which may catch clothing or gear.

i. *Safety Color Code Markings and Signs.* Safety color code marking of certain vehicles, shop areas, and signs outlined in AR 385-30 should be accomplished as required. All piping and fittings in the engineering spaces of watercraft should be color

coded or marked to indicate what the system contains. The system of color coding and markings for piping is found in TB 746-93-4. Regardless of what system is used, there should be a legend posted by all entrances to the engineering spaces indicating what each color represents. Flow directions are indicated by use of arrows. Generally, red represents emergency equipment and systems such as fire-fighting.

APPENDIX A

REFERENCES

A-1. Army Regulations (AR)

27-10	Military Justice.
28-52	Army Sports Program.
30-1	The Army Food Service Program.
30-11	Army Food Program.
30-46	Subsistence Report and Field Ration Request.
37-103	Finance and Accounting for Installations, Disbursing Operations.
37-104-2	Finance and Accounting for Installations; Military Pay and Allowances Procedures.
37-106-1	Finance and Accounting for Installations; Station and Evacuation Allowances.
37-125	Finance and Accounting for Installations, Pay and Allowances Administration.
40-5	Preventive Medicine.
40-562	Immunization Requirements and Procedures.
55-1	CONEX Container Control, Utilization, and Reporting.
55-19	Marine Casualties.
55-71	Transportation of Personal Property and Related Services.
55-113	Movement of Units Within Continental United States.
55-165	Agreement Between Army and Air Force for Joint Operation of CONEX Containers in a Pooled Fleet.
56-9	Watercraft.
65-75	Unit Mail Service.
135-210	Order to Active Duty as Individuals During Peacetime, National Emergency, or Time of War.
190-11	Physical Security Standards for Protection of Weapons and Ammunition.
220-1	Unit Readiness.
220-10	Preparation for Oversea Movement of Units (POM).
220-15	Journals and Journal Files.
220-45	Duty Rosters.
220-58	Organization and Training For Chemical, Biological, and Radiological (CBR) Operations.
230-1	Nonappropriated Funds and Related Activities.
230-21	Accounting Procedures for Nonappropriated Unit Funds, Inmates' Welfare Funds, Stockade Welfare Funds, and Commandants' Welfare Funds.
310-1	Military Publications, General Policies.
310-50	Authorized Abbreviations and Brevity Codes.
340-2	Maintenance and Disposition of Records in TOE Units of the Active Army and the Army Reserve.
340-5	Correspondence and Mail Management.
340-15	Preparing Correspondence.
340-16	Safeguarding "For Official Use Only" Information.
345-20	Release of Information and Records from Army Files.

350-4	Qualification and Familiarization of Weapons and Weapon Systems.
350-13	Material Readiness.
350-30	Code of Conduct.
350-212	Military Justice.
360-81	Command Information Program Objectives and Policies, Publications, and Armed Forces Radio and Television.
380-5	Safeguarding Defense Information.
380-6	Automatic, Time-Phased Downgrading and Declassification System.
380-41	Control of COMSEC Material.
(C) 380-51	Transmission of Classified Information (U).
380-55	Safeguarding Defense Information in Movement of Persons and Things.
380-105	Policy and Procedure Governing Use of Code Words, Nicknames. Short Titles, and Similar Devices.
380-150	Access To and Dissemination of Restricted Data.
380-200	Armed Forces Censorship.
385-10	Army Safety Program.
385-30	Safety Color Code Markings and Signs.
385-32	Protective Clothing and Equipment.
385-40	Accident Reporting and Records.
420-90	Fire Prevention and Protection.
600-6	Individual Sick Slip.
600-8	Military Personnel Offices.
600-9	Army Physical Fitness Program.
600-10	The Army Casualty System.
600-30	Character Guidance Program.
600-31	Flag Control Procedures for Military Personnel in National Security Cases and Other Investigations of Proceedings.
600-55	Motor Vehicle Driver—Selection, Testing, and Licensing.
600-58	Mechanical Equipment Operator—Selection, Training, Testing, and Licensing.
600-200	Enlisted Personnel Management System.
601-49	Notification of Entry into Active Military Service (DD Form 53).
601-280	Army Reenlistment Program.
604-5	Clearance of Personnel for Access to Classified Defense Information and Material.
604-10	Military Personnel Security Program.
604-20	Security Requirements for Personnel in Information and Education Activities.
606-5	Identification Cards, Tags, and Badges.
606-15	Preparation of Fingerprint Record.
608-2	Servicemen's Group Life Insurance.
608-15	Army Savings Program.
611-103	Officer Qualification and Classification.
611-112	Manual of Warrant Officer Military Occupational Specialties.
611-201	Enlisted Military Occupational Specialties.
612-2	Preparing Individual Replacements for Oversea Movement (POR) and US Army Oversea Replacement Station Processing Procedures.
(O) 614-31	Assignment and Travel Restrictions.
(C) 614-32	Restrictions of Assignment and Travel of Personnel Having Access to Special Intelligence (U).
623-105	Officer Efficiency Reports.
640-10	Individual Military Personnel Records.

672-5-1	Awards.
680-1	Morning Report (Reports Control Symbol AG-140(R5)) and Personnel Data Change Report (Reports Control Symbol AG-546).
700-4	Supply and Maintenance Technical Assistance Program.
700-84	Issue and Sale of Personal Clothing.
710-2	Materiel Management for Using Units, Support Units, and Installations.
711-5	Army Equipment Status Reporting System; Unit, Organization, or Activity Equipment Status Reporting (Materiel Readiness).
725-1	Requisition and Removal of Major PEMA Components From Assemblages and Sets of Equipment.
725-50	Requisitioning, Receipt, and Issue System.
735-5	Property Accountability; General Principles and Policies and Basic Procedures.
735-10	Principles and Policies; Accounting for Lost, Damaged, and Destroyed Property.
735-11	Accounting for Lost, Damaged, and Destroyed Property.
740-1	Storage and Supply Activity Operations.
746-1	Color Marking and Preparation of Equipment for Shipment.
750-1	Maintenance Concepts.
750-51	Maintenance Assistance and Instruction Team (MAIT) Program.
870-5	Historical Activities, Responsibilities, Policies, and Procedures.

A-2. DA Pamphlets (DA Pam)

35-1	Pay Guide for Small Unit Commanders.
40-2	Field Sanitation Team Training.
310-1	Index of Administrative Publications (Regulations, Circulars, Pamphlets, Posters, Joint Chiefs of Staff Publications, and General Orders).
310-2	Index of Blank Forms.
310-3	Index of Doctrinal, Training, and Organizational Publications.
310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, 9), Supply Bulletins, and Lubrication Orders.
310-7	US Army Equipment Index of Modification Work Orders.
310-10	Guide for Publications Supply Personnel.
310-35	Index of International Standardization Agreements.
350-14	Guide for Commanders of Company Size Units.
600-8	Military Personnel Office Management and Administrative Procedures.
690-80	Administration of Foreign Labor During Hostilities.
700-2	Commander's Supply and Maintenance Handbook.
750-1	Preventive Maintenance Guide for Commanders.

A-3. Field Manuals (FM)

3-12	Operational Aspects of Radiological Defense.
5-20	Camouflage.
5-25	Explosives and Demolitions.
(C) 5-31	Boobytraps (U).
5-144	Engineer Amphibious Units.
7-30	The Infantry Brigades.
12-2	Adjutant General Support in Theaters of Operations.
14-8	Class A Agent Officers.
19-30	Physical Security.
19-40	Enemy Prisoners of War and Civilian Internees.
19-50	Military Police in Stability Operations.
20-32	Landmine Warfare.

21-5	Military Training Management.
21-6	Techniques of Military Instruction.
21-10	Military Sanitation.
21-11	First Aid For Soldiers.
21-40	Chemical, Biological, Radiological, and Nuclear Defense.
21-41	Soldier's Handbook for Defense Against Chemical and Biological Operations and Nuclear Warfare.
21-48	Chemical, Biological, and Radiological (CBR), and Nuclear Defense Training Exercises.
21-60	Visual Signals.
22-100	Military Leadership.
23-65	Browning Machinegun, Caliber .50 HB, M2.
24-16	Signal Orders, Records, and Reports.
24-18	Field Radio Techniques.
24-20	Field Wire and Field Cable Techniques.
27-10	The Law of Land Warfare.
30-5	Combat Intelligence.
30-28	Armed Forces Censorship.
31-11	Doctrine for Amphibious Operations.
31-12	Army Forces in Amphibious Operations (The Army Landing Force).
31-16	Counterguerrilla Operations.
31-20	Special Forces Operational Techniques.
31-21	Special Forces Operations—US Army Doctrine.
31-85	Rear Area Protection (RAP) Operations.
(C) 32-5	Signal Security (SIGSEC) (U).
(C) 32-20	Electronic Warfare (U).
33-5	Psychological Operations—Techniques and Procedures.
44-30	Visual Aircraft Recognition.
55-15	Transportation Reference Data.
55-30	Army Motor Transport Operations.
55-50	Army Water Transport Operations (to be published).
55-61	Army Terminal Units (to be published).
60-30	Embarkation and Loading —Amphibious.
100-5	Operations of Army Forces In the Field.
100-10	Combat Service Support.
101-5	Staff Officers' Field Manual—Staff Organization and Procedure.

A-4. Technical Manuals (TM)

3-210	Fallout Prediction.
3-220	Chemical, Biological, and Radiological (CBR) Decontamination.
3-221	Field CBR Collective Protection.
5-200	Camouflage Materiel.
9-238	Deepwater Fording of Ordnance Materiel.
10-401	The Army Food Adviser.
10-405	Army Mess Operations.
10-412	Armed Forces Recipe Service.
21-300	Driver Selection and Training (Wheeled Vehicles).
21-301	Driver Selection, Training, and Supervision, Tracked Vehicles.
21-305	Manual for the Wheeled Vehicle Driver.
38-230-1	Preservation, Packaging, and Packing of Military Supplies and Equipment (Volume I).
38-230-2	Preservation, Packaging, and Packing of Military Supplies and Equipment Packing (Volume II).

38-750	The Army Maintenance Management Systems (TAMMS)
55-310	Motor Transport Operations.
55-500	Marine Equipment Characteristics and Data.
55-501	Marine Crewman's Handbook.
55-503	Marine Salvage and Hull Repair.
55-506	Marine Electrical and Refrigeration Equipment.
55-509	Marine Engineman's Handbook.
55-513	Military Stevedoring.
55-604	Troop Movement Guide.

A-5. Technical Bulletins (TB)

55-46-1	Standard Characteristics (Dimensions, Weight, and Cube) for Transportability of Military Vehicles and Outsize/Overweight Equipment.
55-1900-200-20/1	Watercraft Maintenance Reports (to be published).
55-1900-202-12/1	US Army Mobility Equipment Center Floating Craft Preventive Maintenance.
600-1	Procedures for Licensing Operators of Equipment Managed by the US Army Mobility Equipment Command.
740-93-4	Preservation of Vessels for Storage.
746-93-1	US Army Mobility Equipment Command's Unboxed Mobility Equipment Prepared for Shipment (Profile Drawings).
746-93-4	Painting of Vessels.
750-97-19/20	Maintenance Expenditure Limits for FSC Group 35 FSC Classes 3510, 3520, 3530, 3540, 3590.

A-6. DOD Regulation

	Department of Defense Military Pay and Allowances Entitlements Manual.
	Military Pay and Allowances Entitlements Manual.
	Military Standard (MILSTD) 129.
4500.32-R	Military Standard Transportation and Movement Procedures (MILSTAMP).

A-7. Supply Bulletin (SB)

3-40	Herbicides, Pest Control Agents, and Disinfectants.
8-100	Army Medical Department Expendable Supplies.
38-100	Preservation, Packaging, Packing, and Marking Materials, Supplies, and Equipment Used by the Army.
700-20	Army Adopted Items of Materiel and List of Reportable Items.
700-50	Expendable Items (Except Medical, Class V, Repair Parts and Heraldic Items).

A-8. Common Table of Allowances (CTA)

20-2	Equipment for Training Purposes.
50-935	Allowances of Equipment for US Army Vessels.

A-9. Tables of Organization and Equipment (TOE)

12-67	Personnel Service Company.
14-500	Finance Service Organization.
29-500	Composite Service Organization.
29-600	Organizational Maintenance Teams.
55-2	Headquarters and Headquarters Company, Transportation Command.

FM 55-51

55-111	Headquarters and Headquarters Company, Transportation Terminal Brigade.
55-112	Headquarters and Headquarters Company, Transportation Terminal Group.
55-116	Headquarters and Headquarters Company, Transportation Terminal Battalion.
55-118	Transportation Terminal Transfer Company.
55-128	Transportation Medium Boat Company.
55-129	Transportation Heavy Boat Company.
55-138	Transportation Light Amphibian Company.
55-139	Transportation Medium Amphibian Company.
55-157	Transportation Floating Craft General Support Maintenance Company.
55-158	Transportation Lighterage Maintenance Company, Direct Support.
55-500	Transportation Service Organization Headquarters Units.
55-530	Transportation Watercraft Teams.
55-550	Watercraft Maintenance Teams.

A-10. Army Training Programs (ATP)

21-114	Male Military Personnel Without Prior Service.
55-111	Transportation Terminal and Water Transport Units.

A-11. Miscellaneous Publications

	Uniform Code of Military Justice (UCMJ).
	United States Code of Federal Regulations Title 46.

A-12. US Coast Guard Publications

115	Marine Engineering Regulations and Material Specifications.
169	Rules of the Road—International—Inland.
193	Aids to Marine Navigation of the United States.

A-13. Graphic Training Aid (GTA)

21-50	Code of Conduct Card.
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A-14. Training Circular

23-15	Engagement of Aerial Targets With Small Arms.
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APPENDIX B**PREFIX DESIGNATORS FOR TRANSPORTATION WATERCRAFT**

BC—Barge, deck cargo, nonpropelled
BC, BG—Barge, deck or liquid cargo, nonpropelled
BCDK—Conversion kit, barge, deck enclosure
BD—Crane, barge
BDL—Lighter, beach discharge.
BK—Barge, deck cargo, nonpropelled, sectionalized, nesting
BPL—Pier, barge-type, self-elevating, nonpropelled
BR—Barge, refrigerated, nonpropelled, all sizes
FMS—Repair shop, floating, marine equipment, nonpropelled
FS—Freight and supply vessel, large, 140 feet and over
J—Boat, picket
LARC-5—Lighter, amphibious, resupply, cargo, 5-ton
LARC-15—Lighter, amphibious, resupply, cargo, 15-ton
LARC-60—Lighter, amphibious, resupply, cargo, 60-ton
LCM-8—Landing craft, mechanized, Mark VIII
LCU—Landing craft, utility
LT—Tug, harbor
Q—Boat, picket, diesel, wood
ST—Tug, harbor, diesel, 45-foot
ST—Tug, harbor, diesel, 65-foot
T—Boat, passenger and cargo
Y—Vessel, liquid cargo, self-propelled



APPENDIX C

BEAUFORT WIND SCALE WITH SEA CONDITIONS

Wind speed (knots)	Wind description	Sea conditions	Probable wave height (feet)	Beaufort scale number
0-1	Calm.....	Sea smooth and mirror-like.....		0
1-3	Light air.....	Scale-like ripples without foam crests.....	$\frac{1}{4}$	1
4-6	Light breeze.....	Small, short wavelets; crests have a glassy appearance and do not break.	$\frac{1}{2}$	2
7-10	Gentle breeze.....	Large wavelets; some crests begin to break; foam of glassy appearance. Occasional white foam crests.	2	3
11-16	Moderate breeze.....	Small waves, becoming longer; fairly frequent white foam crests....	4	4
17-21	Fresh breeze.....	Moderate waves, taking a more pronounced long form; many white foam crests; there may be some spray.	6	5
22-27	Strong breeze.....	Large waves begin to form; white foam crests are more extensive everywhere; there may be some spray.	10	6
28-33	Near gale.....	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind; spindrift begins.	14	7
34-40	Gale.....	Moderately high waves of greater length; edges of crests break into spindrift; foam is blown in well-marked streaks along the direction of the wind.	18	8
41-47	Strong gale.....	High waves, dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble, and roll over; spray may reduce visibility.	23	9
48-55	Storm.....	Very high waves with long overhanging crests. The resulting foam in great patches is blown in dense white streaks along the direction of the wind. On the whole, the surface of the sea is white in appearance. The tumbling of the sea becomes heavy and shock-like. Visibility is reduced.	29	10
56-63	Violent storm.....	Exceptionally high waves that may obscure small and medium-sized ships. The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere the edges of the wave crests are blown into froth. Visibility reduced.	37	11
64-71	Hurricane.....	The air is filled with foam and spray. Sea completely white with driving spray; visibility very much reduced.	45	12

Source: Weather Bureau.

APPENDIX D

COMMANDER'S CHECKLIST

Section I. GENERAL

D-1. As an Aid to Commander

The following checklist is offered as a guide for use by the company commander when conducting inspections within his unit. It offers a yardstick by which the commander may measure the efficiency of operations within his company and by which he may determine any functional areas which may require additional training, instruction, or guidance.

D-2. As an Aid to Other Personnel

This checklist may also be used by other personnel of the company in the performance of their duties. For instance, paragraph D-5, Unit Dining Facili-

ties, may be used by the mess steward in operating the dining facility and by the mess officer in performing his dining facility management supervisory duties.

D-3. Modified When Necessary

This checklist is not intended to be absolutely complete, nor may all items be fully applicable to all units in every instance. Varying operational conditions, local procedures, and/or command directives may require modification of this list; commanders should take necessary action to insure that changes, additions, and/or deletions are made as required.

Section II. COMPANY OPERATIONS AND FUNCTIONS

D-4. Company Administration

a. Morning Report (DA Form 1).

- (1) References: AR 310-50, AR 680-1.
- (2) Are morning reports prepared in accordance with AR 680-1?
- (3) Are authorized abbreviations used in preparing morning reports?
- (4) Are morning reports prepared and submitted on time?
- (5) Are delayed morning report entries held to a minimum?
- (6) Are errors on previous morning reports, if any, corrected in the proper manner?

b. Duty Rosters (DA Form 6).

- (1) Reference: AR 220-45.
- (2) Are duty rosters maintained in accordance with AR 220-45?
- (3) Are separate duty rosters maintained for each duty requiring the detail of individuals?
- (4) Are consolidated weekday-weekend-holiday duty rosters maintained where practicable?
- (5) Are only names of eligible individuals required to perform the duty entered on the duty roster?

c. Company Orders.

- (1) Reference: AR 310-1.
- (2) Are company orders numbered chronologically for each calendar year?
- (3) Do company orders conform to approved format?
- (4) Has no more than one company order been published on any one date?
- (5) Have all company orders been signed by the company commander?
- (6) Are original copies of all company orders for the present calendar year on file?

d. Functional Files.

- (1) References: AR 340-2, AR 340-5, AR 340-15.
- (2) Are functional files inspected periodically and is obsolete material withdrawn and destroyed?
- (3) Has a specific person been assigned the responsibility for the records management program?
- (4) Is a current copy of AR 340-2 available in the unit?
- (5) Are one-drawer filing cabinets used for the maintenance and storage of all files?
- (6) Is the functional files system properly used for all files created?
- (7) Do folder labels show file number, file title, date of file, and disposition instructions?
- (8) Are folder guides positioned properly?
- (9) Are standard file supplies used throughout the unit?
- (10) Has a selected list of file numbers been prepared?
- (11) Are new folders prepared when material exceeds the normal capacity of a file folder?
- (12) Are no reference publications in excess of actual needs on file?
- (13) Are record and reference copies of unit publications (orders) properly maintained?
- (14) Are required regulations, circulars, and other directives on hand and current?
- (15) Are file copies of unit correspondence prepared on colored tissue instead of white tissue?
- (16) Are documents checked for file authority before being filed?
- (17) Are file drawers properly identified as to contents?

e. Publications Files.

- (1) References: AR 310-1, DA Pam 310-10.
- (2) Is a publications file maintained?
- (3) Are required publications on hand?
- (4) Are publications frequently checked and is superseded material removed from the file?
- (5) Has a DA Form 12 (Request for Establishment of a Publications Account) been submitted to the appropriate US Army Adjutant General publications center?
- (6) Does the unit have on file one copy of each applicable DA Form 12-series in effect?
- (7) Has a list been prepared showing the disposition to be made upon receipt of items requested on the DA Form 12-series?
- (8) Has a suspense file been established for all publications requisitioned and not yet received, showing disposition to be made upon receipt?
- (9) Is an adequate supply (monthly) of forms maintained as prescribed by current needs?
- (10) Has the unit publications officer made a survey of publications required for each platoon and section; have required publications been requisitioned?
- (11) Has action been taken to conduct on-the-job training in publications distribution procedures for all personnel concerned with the supply of publications?
- (12) Are reference publications, DA Pamphlet 310-series, maintained to insure that required military publications are current, on hand, or on requisition?

f. Bulletin Board.

- (1) Is the bulletin board located where it is readily accessible to all unit personnel?
- (2) Is the bulletin board kept in a neat condition?
- (3) Is the posted information current and pertinent?

g. Unit Mail Services.

- (1) References: AR 65-75, AR 340-2.
- (2) Are up-to-date copies of pertinent references available to unit mail personnel?
- (3) Has a postal officer been appointed on unit orders?
- (4) Have a mail clerk and at least one alternate been appointed and recorded on DD Form 285?
- (5) Does the unit postal officer understand his responsibilities?
- (6) Is the unit mail clerk familiar with the procedures for forwarding mail?
- (7) Does the mail clerk understand his responsibilities for mail entrusted to his custody?

(8) Is the unit locator file kept up to date?

(9) Does the unit have a standing operating procedure (SOP) for the handling and routing of mail for troops in the field?

(10) Are mail files established in accordance with AR 340-2?

(11) Have hours of collection and distribution been posted on all mail boxes?

(12) Is mail delivered promptly?

(13) Is a daily accounting made of all registered, insured, and certified mail?

(14) Are physical facilities for the protection of mail, especially registered mail, adequate?

(15) Are all keys to the mailroom properly accounted for?

h. Unit Fund.

(1) References: AR 230-1, AR 230-21.

(2) Is the unit fund maintained in accordance with the provisions of AR 230-21?

(3) Is unit fund cash on hand secured by the custodian at all times?

(4) Is unit fund income (cash, checks, negotiable instruments) promptly deposited in the bank?

(5) Are funds deposited in an account under the official designation of the unit fund and not to the credit of the custodian as an individual?

(6) Is all unit fund property entered in the property section of the council book accounted for and in serviceable condition?

(7) Has a unit fund council been properly appointed?

(8) Are the minutes of unit fund meetings on file?

(9) Are financial obligations of the fund paid promptly to take advantage of discounts offered for prompt payment?

(10) Are single expenditures in excess of \$500.00 approved by higher headquarters?

(11) Are all fund deposits supported by bank deposit slips?

(12) Are all fund expenditures covered by canceled checks?

(13) Has the fund been audited by an inspector general during the past year; by a disinterested officer quarterly?

i. Safeguarding Classified Documents.

(1) References: AR 220-10, AR 345-16, AR 380-5, AR 380-6, AR 380-51, AR 380-105, AR 380-150.

(2) Have a security control officer and an alternate been appointed on company orders?

(3) Are all personnel who have access to classified documents cleared, and are they familiar with the provisions of AR 380-5?

(4) Are all classified documents properly secured?

(5) Is the type of container used for the storage of classified documents authorized?

(6) Are all classified documents accounted for? Are periodic inventories of classified documents conducted?

(7) Are all classified documents reviewed periodically for regrading instructions?

(8) Are personnel aware of SAEDA (Subversion and Espionage Directed Against the US Army) and of incidents that should be reported?

(9) Is a procedure established to debrief departing personnel who have had access to classified material?

(10) Is a roster maintained in current status for all unit personnel cleared for access to classified information?

(11) Do unit duty officer instructions include actions to be taken in the event of a possible security violation?

(12) Are there any classified documents held that are not necessary to the operation of the unit?

(13) Are file folders stamped with the highest classification of the documents contained therein?

(14) Are classified and unclassified files and documents properly separated in the files?

(15) Are cloth typewriter ribbons which are used in typing classified information adequately secured until the ribbon is cycled through the typewriter, using random letters and numbers, at least four times, two on the upper ribbon line and two on the lower ribbon line?

- (16) Are drafts and working papers annotated with the appropriate degree of classification or protective marking?
- (17) Are classified working papers that are retained for a long period brought under accountability control?
- (18) Are procedures established in the unit for the proper disposition of working papers, carbons, typewriter ribbons, and other materials used in the preparation of classified documents?
- (19) Are combinations changed or locks rotated in accordance with regulations?
- (20) Is part 1, DA Form 727 (Classified Container Information) affixed to each container containing classified information? (It WILL NOT be used for containers that do not contain classified information.)
- (21) Have parts 2 and 3, DA Form 727, been properly prepared and forwarded to the control office of the appropriate headquarters?
- (22) Is DA Form 672 (Safe or Cabinet Security Record) affixed to each container containing classified information; is it properly maintained?
- (23) Are placards used to indicate that the container is open or closed?
- (24) Are cover sheets used to cover classified documents when they are removed from the files?
- (25) Is the classified material emergency evacuation or removal plan posted in the vicinity of the classified files?
- (26) Is the evacuation priority posted on each classified container?
- (27) Are restricted data safeguarded in accordance with AR 380-150?
- (28) Do all personnel requiring a security clearance possess proper clearance?
- (29) Is material marked "For Official Use Only" properly safeguarded?

j. Commander's Information Program.

- (1) References: AR 360-81, AR 604-20; FM 21-6.
- (2) Is the command information instruction given by, or directly supervised by, the company commander?
- (3) Are security clearance requirements adhered to when selecting personnel for command information duties?
- (4) Are provisions of separation or transfer to reserve status being complied with in accordance with AR 360-81?
- (5) Does a command information news center exist in a troop traffic area in the barracks?
- (6) Does the news center have posted a world news map or a world map; are significant world and national news clippings or pages from magazines displayed?
- (7) Are commander's calls included in the unit training schedule?
- (8) Is there a chain of command display with portraits of commanders from the President down to the unit commander?

k. Reenlistment Program.

- (1) Reference: AR 601-280.
- (2) Sample reenlistment assistance survey suggested checklist.
 - (a) Has the unit Reenlistment Officer/Non-commissioned Officer been appointed on orders?
 - (b) Is the Reenlistment Non-commissioned Officer aware of the unit reenlistment objective?
 - (c) Is the objective being achieved?
 - (d) Are appropriate statistics maintained and disseminated?
 - (e) Is the unit Reenlistment Non-commissioned Officer receiving formal instruction required by AR 601-280?
 - (f) Is the unit receiving adequate support from career counselors at higher headquarters?
 - (g) Are Reenlistment Data Cards (DA Form 1315), properly completed, being received within required time frames from servicing personnel sections?
 - (h) Is the Reenlistment Data Card File established in accordance with AR 601-280?
 - (i) Are all Reenlistment Data Cards accounted for? Strength Disposition
 - (j) Are all entries on DA Forms 1315 current?
 - (k) Are all personnel interviewed in accordance with AR 601-280 as supplemented?

(l) Are interview remarks self-explanatory and sufficiently detailed to be of value to subsequent interviewers?

(m) Do remarks on DA Forms 1315 agree with personnel queried? Number queried

(n) Are ineligible personnel advised of their ineligibility by the unit commander and procedure of attaining eligibility?

(o) Are personnel viewing required films within appropriate time frames?

(p) Are Reenlistment Data Cards being disposed of in accordance with AR 601-280 as supplemented?

(q) Has the unit Reenlistment Program been inspected and results recorded on the "Record of Inspection Card"?

(r) Is adequate assistance afforded by higher headquarters?

(s) Does the unit have a Reenlistment Bulletin Board?

(1) Is it neat?

(2) Is it informative?

(3) Is the name, location and telephone number of unit reenlistment personnel and supporting career counselors posted?

(4) Is the unit reenlistment incentive program posted on the bulletin board?

(t) Is there a reenlistment facility/area attractively furnished and private?

(u) Are the required regulations maintained within the unit?

(v) Is the unit incentive awards program sufficient in scope to be effective?

(w) Is the bar to reenlistment being effectively utilized?

(x) Are key personnel within the unit familiar with, and actively supporting the reenlistment program?

D-5. Unit Dining Facilities

a. *References:* AR 30-1, AR 30-11, AR 30-46, AR 31-20, AR 40-5; TM 10-401, TM 10-405, TM 10-412.

b. *Garbage Rack/Stand.*

(1) Are garbage cans cleaned daily?

(2) Are garbage cans in good condition?

(3) Do garbage cans have tight fitting lids?

(4) Are garbage cans kept on the rack/stand and off the ground?

(5) Is waste properly segregated and labeled?

(6) Is the volume of edible waste low?

(7) Is area around garbage rack/stand well policed?

(8) Is proper disposal made of tin cans, sacks, egg crates, and cartons?

c. *Rear Entrance.*

(1) Are steps and doors clean?

(2) Are doors tight (insect and rodent proof)?

(3) Is the fuel storage area free of trash?

(4) Is a broom rack of the proper type available?

(5) Are mops and brooms suspended so that the heads hang downward and are they clean and serviceable?

d. *General Appearance of Dining Area.*

(1) Is the general appearance of building and grounds good?

(2) Is the police around and/or under the building satisfactory?

(3) Are windows properly screened?

(4) Are screens clean and free of tears?

(5) Are buildings properly secured?

e. *Kitchen Storeroom.*

(1) Is the storeroom clean and neat in appearance?

(2) Are rations segregated properly?

- (3) Are all rations stored on shelves; is the floor kept clear?
- (4) Are stored rations kept clear of steampipes?
- (5) Are ration supplies properly rotated?
- (6) Is the storeroom locked when not in use?
- (7) Are cleaning materials stored in a location other than the ration storeroom?
- (8) Are windows properly secured?
- (9) Are excess rations turned in properly?
- (10) Nonrefrigerated perishables.
 - (a) Are perishables inspected upon receipt; are deteriorated subsistence items removed?
 - (b) Is a daily inspection of stored perishables made for the removal of deteriorated items?

f. Refrigeration.

- (1) Is the temperature maintained between 32° and 42°?
- (2) Are interiors of refrigerators clean and neat?
- (3) Is food in refrigerators properly segregated?
- (4) Is food in refrigerators kept covered?
- (5) Is food kept off bottom of refrigerator so that air can circulate freely?
- (6) Are there no excessive leftovers in the refrigerator?
- (7) Frozen foods.
 - (a) Are frozen subsistence items inspected upon receipt and deteriorated items removed?
 - (b) Are frozen subsistence items refrigerated promptly?
 - (c) Are such items inspected frequently for deterioration?

g. Bread Storage.

- (1) Can air circulate freely around stored bread?
- (2) Is bread fresh?
- (3) Is breadbox clean?
- (4) Is breadbox insect and rodent proof?
- (5) Is bread stored so as to prevent crushing of loaves?

h. Worktable and Chopping Block.

- (1) Is the worktable clean and in good condition?
- (2) Have racks been installed nearby to hold kitchen utensils?
- (3) Is the meat block rotated for even wear?
- (4) Is the meat block cleaned only with a steel scraper or wire brush?

i. Pots, Pans, Utensils, and Silverware.

- (1) Are these items stored to permit air drying?
- (2) Are pans stored with bottoms up?
- (3) Are pans clean and in good condition?
- (4) Washing.
 - (a) Are pots, pans, utensils, and silverware washed in lukewarm water containing soap or detergent?
 - (b) Are these items prerinsed in clear hot water?
 - (c) Are they immersed in a final rinse of clear hot water (minimum 180°) for at least 30 seconds?

j. Ranges.

- (1) Are ranges clean and in good operating condition?
- (2) Is a thermometer or thermostat installed on each range and is it operable?
- (3) Are cooks qualified to operate ranges?
- (4) Are ranges operated by the cooks in a safe manner?

k. Personnel.

- (1) Personal hygiene.
 - (a) Are dining facility personnel freshly shaved, bathed, and well groomed?

- (b) Do dining facility personnel have proper and neatly trimmed haircuts?
- (c) Are their nails neatly trimmed and clean?
- (2) Are dining facility personnel dressed in neat and clean uniforms?
- (3) Are their shoes or boots clean and polished?
- (4) Do dining facility personnel show signs of a communicable disease or do they have open sores (r(3) below)?
- (5) Is a daily inspection made of personnel prior to their going on shift?
- (6) Are facilities for maintaining personal hygiene adequate?
- (7) Are dining facility operations supervised by the mess officer and the mess steward?
- (8) Is military courtesy practiced by dining facility personnel?

l. Cook's Worksheet (DA Form 3034).

- (1) Is the Cook's Worksheet prepared by the mess steward?
- (2) Is the Cook's Worksheet displayed in the kitchen and is it readily accessible to cooks for reference?
- (3) Do cooks follow the worksheet special instructions?
- (4) Are leftovers used?
- (5) Are waste figures checked for accuracy?
- (6) Are worksheets complete to include all required computations and signatures?

m. Food Preparation and Cooking.

- (1) Is TM 10-412 readily available?
- (2) Is food prepared carefully and economically?
- (3) Does the time of preparation and cooking conform to the Cook's Worksheet?
- (4) Is overcooking avoided to preserve vitamin content?
- (5) Is food seasoned carefully and adequately?
- (6) Does the food taste good?

n. Serving.

- (1) Is the counter clean and attractive in appearance?
- (2) Is the serving line effectively organized to include protection from inclement weather.
- (3) Are personnel who are assigned to operate the serving line neat, clean, adequate in number, and wearing appropriate clothing and headgear?
- (4) Is an appropriate menu or sample tray displayed?
- (5) Cafeteria style service.
 - (a) Is food served in proper sequence?
 - (b) Is food arranged in containers neatly and attractively with appropriate garnishing?
 - (c) Are adequate portions served?
 - (d) Is food served properly onto the individual trays?
 - (e) Is food served on time with hot foods hot and cold foods cold?
 - (f) Is the waste disposal point a sufficient distance from the serving counter to preclude an unpleasant atmosphere for those being served?

o. Conservation and Control.

- (1) General.
 - (a) Does the mess steward stress conservation in all phases of food service operation?
 - (b) Is waste in the preparation of food kept to a minimum?
- (2) Plate waste point.
 - (a) Is plate waste properly segregated?
 - (b) Is plate waste controlled by the mess steward and the mess officer?
 - (c) Is the amount of plate waste measured by the mess steward and the amount entered on the Cook's Worksheet?
 - (d) Are causes of excessive plate waste determined and corrective action taken?

p. Dining Hall.

- (1) Are floors, walls, and windows clean?
- (2) Is lighting adequate and are lighting fixtures clean?
- (3) Do tray, silverware, cup, and soup bowl storage racks provide proper ventilation?
- (4) Does the dining hall present a neat and attractive appearance with a pleasant atmosphere?

q. Control of Operations.

- (1) Are the number of rations required for consumption on future dates accurately estimated?
- (2) Does the mess steward accurately inventory and inspect rations on receipt?
- (3) Is the meal attendance head count used to assist in preparing the ration estimate?
- (4) Are the required head count personnel detailed?
- (5) Is the required daily dining facility operations meeting timely, informative, and productive?
- (6) Do all dining facility personnel receive continuous on-the-job training?
- (7) Are dining facility personnel organized into shifts, each capable of performing all functions required in the operation of the dining facility?
- (8) Does the mess steward control dining facility operations through the medium of the Cook's Worksheet?
- (9) Does the mess steward list job assignments that must be performed?
- (10) Are breakage and losses controlled?

r. Examination of Food Handlers.

- (1) Are food handlers given a medical examination before being assigned and after resuming food handling duties when they have been continuously absent for 30 days?
- (2) Are reports of the results of above examinations filed with dining facility records; are they forwarded with the individual's records upon transfer?
- (3) Does the mess steward inspect all dining facility personnel daily at the start of their work period; are all persons who exhibit signs of illness or skin disease or who have infected cuts referred to the medical officer?

s. Personnel Authorized to Subsist.

- (1) Are meal cards issued to all enlisted personnel to indicate the individual's authority to subsist with or without charge?
- (2) Does the person detailed to make head count check meal cards upon entry of individuals into dining hall?
- (3) Are unused meal cards secured in the unit orderly room?
- (4) Is a guest register used to account for all meals served to enlisted personnel not on separate rations status and not assigned or attached to the unit for rations?
- (5) Is reimbursement for meals made at the time the meal is served?
- (6) Is a surcharge collected when appropriate?
- (7) Are cash turn-ins made as required by regulations or local directives?
- (8) Does a unit officer (warrant officer) partake of one or more meals daily to determine quality and adequacy of food served?
- (9) Are officer personnel in an official capacity allowed to sample food?

D-6. Unit Supply*a. General.*

- (1) References: AR 190-11, AR 385-32, AR 700-84, AR 710-2, AR 711-5, AR 725-1, AR 735-5, AR 735-10, AR 735-11, DA Pam 310-series, DA Pam 350-series, DA Pam 700-2; SB 3-40, SB 8-100, SB 700-20, SB 700-50; TM 38-750; all applicable tables of organization and equipment, tables of allowances, and technical manuals; and all supply manuals and supply catalogs.
- (2) Are supply personnel adequately trained and properly supervised?
- (3) Are all records neat and legible?

b. Supply Room.

(1) Is the supply room secure against unlawful entry, or, if the company is in the field, is the supply tent properly guarded?

(2) Are all keys to the supply room and arms racks accounted for; are the keys in the possession of authorized personnel?

(3) Are keys to the supply room readily available in case of fire or other emergency?

(4) Is fire protection adequate?

(5) Are arrangements for the receipt, handling, and issue of property the best consistent with facilities available?

(6) When practical, are supplies segregated by type; that is, organization, installation, and expendables?

(7) Are arrangements adequate for the safekeeping of property of absentees, including personnel in the hospital?

(8) Is the supply room library of publications (AR's, SB's, TM's, etc.) complete considering the scope of operations?

(9) Are supplies protected against dust, water, and deterioration?

(10) Is stored equipment maintained on a scheduled basis?

c. Document Register for Supply Action (DA Form 2064).

(1) Are all documents concerning organization and installation property posted to the document register properly?

(2) Are document numbers assigned in numerical sequence by Julian date and fiscal year?

(3) Are all documents on file in the document register complete?

(4) Are separate document registers maintained for expendable and nonexpendable property transactions?

d. Document File.

(1) Does the document file consist of all documents supporting entries in the property book for receipt and turn-in of property?

(2) Are documents filed in the sequence of document numbers assigned by the organization property book officer?

(3) Has every document which must be posted to a property book been assigned a document number; has it been posted and verified by date and the initials of the person posting the information shown?

(4) If a document has been lost and no duplicate is available, is a certificate filed in its place?

e. Suspense File.

(1) Is a suspense file prepared and properly maintained?

(2) Is it being used for its intended purpose?

(3) Are suspense copies of property documents destroyed when completed action copies are received?

f. Table of Organization and Equipment (TOE) Organization Property Book (if authorized or required).

(1) Is a certificate of accountability properly completed and signed on the first page of the property book?

(2) Does the organization property book contain a properly prepared page for every item in the applicable TOE, in common-type tables of allowances (CTA), or in other authorization media?

(3) Are deviations from amounts authorized by these tables supported by letters of authorization from competent authority and shown as current operating allowance?

(4) Are the items recorded in the "Balance" column on hand and in a serviceable condition?

(5) Are unit assemblies, chests, kits, and outfits carried as single items?

(6) Does the amount recorded in the "Balance" column plus the amount on requisition equal the current operating allowance?

(7) Is there an entry on each page of the property book to indicate that it has been inventoried during the past year?

(8) Are all supplies in excess of current operating allowances turned in promptly?

(9) Have lost and unserviceable items been adjusted in accordance with AR 735-11?

(10) Are all required entries on the front of the property book page, except those in the allowance, au-

thority, price, Federal stock number, and line description columns, entered in ink?

(11) Are all entries (except (14) below) on the reverse side of the property book page made in pencil?

(12) Are stock numbers and item descriptions correct?

(13) Are all entries, except inventories, supported and identified by a document number?

(14) Are required serial numbers listed on appropriate pages and annexes in ink?

(15) Is the organization property book neat?

(16) Are expendable pages flagged for items in section III of TOE's and reportable in accordance with AR 711-5?

g. Installation Property Book (When Required).

(1) Does the installation property book contain a page for every item authorized the organization by appropriate table of allowances?

(2) Are deviations from the amounts authorized by these tables supported by letters of authorization from competent authority and shown as current operating allowance?

(3) Are all items listed in the "Balance" column on hand and in serviceable condition?

(4) Are unit assemblies, chests, kits, and outfits carried as single items?

h. Hand Receipt/Annex No. (DA Form 2062) File.

(1) Are hand receipts prepared in duplicate—original retained in the office of the property book officer and duplicate given to the responsible officer?

(2) Does the total quantity of any line item reflected in the hand receipt files of a property book officer plus any quantity of the item in his possession agree with the figure in the "Balance" column of the appropriate property book page?

(3) Is a folder established for each hand receipt account, clearly identifying on the outside the hand receipt file number and the user?

(4) Does each hand receipt file list all end items for which direct responsibility has been fixed?

(5) When required by regulations, are serial numbers of items issued annotated on the hand receipt?

(6) Are annexes on file which list shortages of overages of basic issue items and their components?

(7) Expendable supplies.

(a) Are consumption experience factors used to determine monthly expendable requirements?

(b) Do expendable supplies on hand or on requisition represent no more than the monthly requirements?

(c) Are transactions for expendable supplies posted to the appropriate document register?

i. Personal Clothing Record—Enlisted Men (DA Form 3327).

(1) Is there a DA Form 3327 prepared and on hand for each individual? Are all entries typed or in ink except allowances, sizes, and balances?

(2) Are appropriate entries recorded on the 3327's; that is, authorized allowance, sizes, quantity issued, and balance?

(3) Is the "Authorized Allowance" column on the 3327 in agreement with current directives?

(4) Are all issues signed by the individual concerned and all turn-ins signed by the property book officer? Are signatures in ink in the appropriate column at the bottom of the page? Are all unused blocks in such columns lined out?

(5) Is the "Balance" column in agreement with the amount of personal clothing/equipment the individual actually has; are these items serviceable?

(6) Are abstracts of issue and turn-in (DA Form 3325-R) being used properly?

(7) Are sizes periodically confirmed or revised based on sizes currently worn by the individual?

(8) Does the unit commander conduct showdown inspections upon arrival, separation, or transfer of individuals, or at least quarterly?

j. Supply Economy.

(1) Is supply economy stressed in unit meetings; is time allocated for this subject in training schedules?

(2) Are supply economy posters prominently displayed in the unit area?

(3) Do unit personnel exhibit a personal interest in the proper use of supplies and materiel?

k. Small Arms and Arms Room.

- (1) Is the unit arms room secured in accordance with the provisions of AR 190-11?
- (2) Is the unit commander charged with direct responsibility for small arms on an established hand receipt from the property book officer?
- (3) Are weapons assigned on a master assignment chart (nomenclature, weapon serial number, name, Social Security account number, and organization of individual to which assigned)?
- (4) Has each individual in the unit been issued a weapon (by serial number) and a bayonet and given a properly prepared weapons card?
- (5) Does the charge of quarters conduct a physical count of small arms (to include private weapons secured in the arms room) with the individual from whom he accepts custody of the keys to the arms room? Is this count properly recorded on a weapons register?
- (6) Does the unit commander personally conduct a weapons inventory weekly (to include personal weapons)?
- (7) Is a system for positive control of keys to the arms room in effect? Is a weapons inventory made and recorded on a weapons register each time the arms room keys change hands?
- (8) Are cleaning and preserving materials (patches, oil, cleaning rags, cleaning rods) readily available in the arms room?
- (9) Are the prescribed small arms repair parts on hand and properly maintained?

D-7. Morale

- a. References: AR 28-52, AR 420-90, AR 600-9, AR 600-30, AR 608-15; appropriate DA pamphlets; FM 22-100.
- b. Are all personnel encouraged to attend religious services?
- c. Are all personnel encouraged to participate in recreational activities?
- d. When transportation is required, is it provided for personnel to attend activities listed in b and c above?
- e. Are personnel on TDY and in the hospital paid on time?
- f. Is a unit athletic and recreation program in effect?
- g. Are personnel counseled on the advantages of a savings program (US savings bonds, soldier's deposits)?

D-8. Discipline

- a. References: AR 27-10, AR 350-30, AR 350-212; Uniform Code of Military Justice (UCMJ).
- b. Are uniforms neat and properly maintained?
- c. Are uniform regulations observed?
- d. Are living quarters kept neat and clean?
- e. Is equipment stored in a uniform manner?
- f. Do personnel salute correctly when salutes are required?
- g. Do personnel report promptly and correctly to inspecting officers?
- h. Is nonjudicial punishment properly exercised?

D-9. Sanitation and Hygiene

- a. References: AR 40-5; DA Pam 40-2; FM 21-10, FM 21-11.
- b. Are accepted standards of personal neatness and cleanliness met?
- c. Are field latrines properly constructed and located, and are they adequate?
- d. Are garbage pits and other waste disposal facilities in the field adequate, and are they properly located and constructed?
- e. Are adequate shower facilities available?
- f. Are the facilities listed in c, d, and e above kept clean, sanitary, and well policed?
- g. Is a vector control officer appointed?
- h. Are hand washing facilities available in latrine and mess areas?

D-10. Standing Operating Procedures (SOP's)

- a. References: AR 750-1; FM 55-15, FM 101-5.
- b. Does the company have SOP's covering specific operations performed by the unit?
- c. Are SOP's followed?
- d. Are SOP's current, and are they available to all concerned?
- e. Do SOP's conform to those of higher headquarters?
- f. Do SOP's simplify the preparation and transmission of orders, promote understanding and teamwork between activities of the unit, and facilitate and expedite operations?
- g. Are procedures for the safeguarding of property prescribed, and are they followed?

D-11. Motor Transport Operations

- a. References: AR 600-55, AR 710-2, AR 750-1; FM 55-30; TM 21-300, TM 21-305, TM 38-750, TM 55-310.

b. Driver Records.

- (1) If required, are the following forms and publications present in all vehicles?
 - (a) Operator Report on Motor Vehicle Accidents (SF 91).
 - (b) Accident—Identification Card (DD Form 518).
 - (c) Technical manual pertinent to the vehicle.
 - (d) Lubrication order pertinent to the vehicle.
 - (e) Driver's manual.
- (2) Do all drivers have a US Government Motor Vehicle Operator's Identification Card (SF 46) as required by AR 600-55, and are the SF 46's authenticated for the types of vehicles operated?
- (3) Are drivers aware of any restrictions entered on their SF 46?

c. Vehicle Dispatching.

- (1) Is an up-to-date record (vehicle status board) maintained to show the current disposition of all vehicles?
- (2) Are data, as required for operational records and reports, maintained on task vehicle tonnages and mileage?
- (3) Are daily vehicle availability reports submitted timely and accurately to battalion or other appropriate headquarters?
- (4) Are vehicle operators properly briefed before going on commitment and given definite information on to whom or where to report (name of individual and/or proper pinpointed location)?
- (5) Are Equipment Utilization Records (DA Form 2400's) properly completed by drivers during and on release from dispatch, and upon return to the unit motor pool?
- (6) Are unit administrative vehicles dispatched on a trip basis rather than on a recurring daily dispatch basis?
- (7) Does the dispatcher coordinate and consolidate unit administrative dispatch requirements whenever possible?

d. Vehicle Maintenance and Inspection.

- (1) Do vehicle operators perform before-, during-, and after-operation preventive maintenance services?
- (2) Do drivers correct minor deficiencies to the extent possible with available means?
- (3) Are adequate time and facilities provided for operators to perform preventive maintenance?
- (4) Where necessary, has a reasonable attempt been made to construct or improve facilities for maintenance?
- (5) Are inspection worksheets used in the performance of vehicle maintenance?
- (6) Is the Preventive Maintenance Schedule and Record (DD Form 314) used and maintained properly?
- (7) Are inspections performed in accordance with pertinent vehicle TM's?
- (8) Is all authorized "on equipment materiel" serviceable, on hand, or on requisition?

- (9) Is a motor pool safety program in effect?
- (10) Is a driver award program in effect?
- (11) Is supply economy stressed in the motor pool?
- (12) Are incidents involving vehicle abuse and misuse reported immediately?

D-12. Motor Convoy Operations

Each item listed below should be checked *before* departure time:

- a. Where is the start point? Release point?
- b. What route is to be used?
- c. Has a reconnaissance been made?
- d. Can bridges and defiles safely accommodate all loaded vehicles?
- e. Are critical points known and listed on strip maps?
- f. Has the size of serials been determined?
- g. Has the size of march units been determined?
- h. What will be the rate of march?
- i. What is the vehicle gap on open road? In built-up areas? At halts?
- j. What type of column is to be used?
- k. Have provisions been made for refueling, if required?
- l. Have suitable rest and mess halt areas been selected, if required?
- m. Is a road movement table needed? Prepared? Submitted?
- n. Has convoy clearance been obtained?
- o. Is an escort required? Has it been requested?
- p. Are spare vehicles available for emergencies?
- q. Are vehicles fully serviced, clean, and ready for loading?
- r. Are drivers properly briefed? By whom? When?
- s. Are drivers furnished strip maps?
- t. Is convoy marked front and rear of each march unit?
- u. Are road guides in place? Have arrangements been made to pick up road guides?
- v. Are all vehicle blackout lights functioning?
- w. Are maintenance servicing organizations alerted?
- x. Is there a maintenance truck or wrecker in the rear of the convoy?
- y. Is there a plan for evacuation of disabled vehicles?
- z. Are there medical personnel and/or an ambulance in the rear of the convoy?
- aa. Is there a plan for the evacuation of possible casualties?
- ab. Are all interested parties advised of the estimated time of arrival?
- ac. Has the party been instructed in accident investigation procedures?
- ad. Is there an entrucking plan? Who is responsible?
- ae. Is there a detrucking plan? Who is responsible?
- af. Is there a plan for feeding personnel?
- ag. Have times been established for entrucking or loading?
- ah. Has a time been established for the formation of the convoy?
- ai. Has a place been established for the formation of the convoy?
- aj. Have times been established for detrucking or unloading?
- ak. Has a time been established for replacing vehicles? Who is responsible?
- al. Is there a plan, known to all personnel in the convoy, that will be used in case of an attack?
- am. Is there a written operations order on hand, if required?
- an. Will a convoy commander's report be required? Are the necessary forms on hand?

Section III. TRAINING AND SAFETY

D-13. Training

- a. References: AR 350-4, AR 350-13, AR 600-30, FM 21-5, FM 21-6, FM 21-10; appropriate Army training programs, Army training tests, and Army subject schedules; appropriate DA pamphlets.
- b. Have a unit training officer and noncommissioned officer been properly appointed?
- c. Are unit weekly training schedules properly prepared and promptly posted (at least 1 week in advance)?
- d. Does the weekly training schedule conform to the master training schedule?
- e. Are adequate references, training aids, and training facilities available to the instructors?
- f. Do all personnel receive the required mandatory training?
- g. Are instructors provided adequate time to prepare training material and present instructions?
- h. Are instructors selected based on their knowledge of subject matter?
- i. Is there an alternate schedule for inclement weather?
- j. Are training programs continuous, concurrent, and adequate for the company's mission and operations?
- k. Are training makeup classes conducted?
- l. Are approved lesson outlines either available in the unit or prepared by the instructors?
- m. Are individual training records prepared, filed, and properly maintained on each individual in the unit?
- n. Are individual training records inspected weekly to assure that personnel are receiving the required training?
- o. Are personnel cross-trained?
- p. Do personnel receive on-the-job training?
- q. Is advantage taken of service school quotas?
- r. Are personnel aware of publications and courses available for self-training (United States Armed Forces Institute courses, correspondence courses).
- s. Is training in security, area defense, and chemical, biological, radiological, and nuclear defense incorporated in training programs?
- t. Does the unit weekly training schedule provide sufficient time for movement between class areas, changes of uniform, and normal breaks?

D-14. Safety

- a. References: AR 385-10, AR 385-40; FM 21-6.
- b. Is a safety committee established and functioning?
- c. Is firefighting equipment available, adequate, and in the proper locations?
- d. Are all personnel familiar with the operation of the firefighting equipment?
- e. Are dangerous materials properly stored and handled?
- f. Are personnel familiar with the safety precautions that are applicable to the equipment they are using and/or to operations they are performing?
- g. Has a definite procedure been established for reporting accidents?
- h. Is defective equipment reported immediately upon discovery?
- i. Is the safety plan current; are all personnel familiar with it?
- j. Is a fire plan properly prepared and posted for all facilities?

Section IV. TACTICAL OPERATIONS

D-15. Defense and Security

- a. References: AR 220-58, AR 612-2, AR 740-1; FM 5-31, FM 7-30, FM 20-32, FM 21-10, FM 21-40, FM 21-41, FM 31-16, FM 31-20, FM 31-21, FM 31-85, FM 33-5, FM 100-5, FM 100-10; TM 55-310.
- b. Area Security.
 - (1) Does the unit have a current defense plan; are all personnel familiar with it?

(2) Is the unit defense plan coordinated with the defense plan of the next higher headquarters?

(3) Does the layout of the company area provide for both internal and external security measures for defense?

(4) Does the defense plan incorporate active and passive defense measures?

(5) Are adequate trenches and foxholes constructed and kept in good repair?

(6) Does the unit defense plan provide for coordination with adjacent units?

(7) Does the unit have a plan for defense while on the march?

c. Rear Area Protection.

(1) Does the unit defense plan provide for measures to be taken before, during, and after an attack or a natural disaster?

(2) Are area damage control squads organized, trained, and equipped; is the equipment complete and in an easily accessible location?

(3) Are natural camouflage and terrain features taken into consideration in the selection of the unit area?

(4) Is camouflage discipline rigidly enforced?

(5) Does the unit defense plan provide for a warning system?

d. Chemical, Biological, and Radiological (CBR) and Nuclear Defense.

(1) Are all personnel familiar with the unit's CBR and nuclear defense plan?

(2) Have a unit CBR officer and a noncommissioned officer been appointed; are they familiar with their duties?

(3) Have radiological survey and monitoring teams been organized?

(4) Have provisions been made for evacuating casualties?

(5) Is maximum use made of terrain features to reduce the effect of nuclear attack on unit operational areas?

D-16. Destruction of Supplies and Equipment

a. Reference: FM 5-25.

b. Does the unit have a plan or standing operating procedure (SOP) for the destruction of supplies and equipment to prevent their capture?

c. Does this plan or SOP provide for a priority of destruction?

d. Are personnel that may become involved in the destruction of materiel trained in the use of explosives?

D-17. Unit Movement

a. References: AR 220-10; FM 55-15, FM 55-30; TM 55-310, TM 55-604.

b. Does the unit have loading plans (motor, rail, air, and water); can these plans be quickly implemented when a movement order is received?

c. Have provisions been made for the phaseout of support operations when a movement order is received?

d. Are all personnel involved in the preparation for and accomplishment of the move familiar with their assigned duties and responsibilities?

e. Does the unit movement plan provide for an advance party, rear party, and other detached parties as required?

Section V. TECHNICAL OPERATIONS

D-18. General

a. References: AR 611-201; FM 22-100; DA Pam 310-series; applicable tables of organization and equipment.

b. Personnel:

(1) Are personnel qualified in the military occupational specialties in which they are serving?

(2) Are key personnel acquainted with the duties and responsibilities of their positions?

(3) Are personnel cross-trained within sections and platoons?

- (4) Are personnel in sections and platoons given on-the-job training?

c. *Supervision.*

- (1) Do supervisory personnel inspect, supervise, and instruct members of their platoons and sections?
- (2) Are supervisory personnel thoroughly acquainted with the status of the work being performed in their activities?
- (3) Do supervisory personnel know the exact disposition of personnel under their control?
- (4) Are supervisory personnel familiar with the use of forms, records, reports, and publications used in their activities?
- (5) Do supervisory personnel enforce supply economy?
- (6) Are supervisory personnel held responsible for the quality and quantity of work performed in their activities?

d. *Administration.*

- (1) Is a library of technical publications on hand and available to all personnel?
- (2) Are adequate records being maintained as required?
- (3) Are reports prepared properly and submitted on time?
- (4) Are required forms available in all activities?

e. *Tools and Equipment.*

- (1) Do activities have authorized tools and equipment on hand to perform their mission?
- (2) Are unserviceable items turned in for replacement?
- (3) Are tools and tool sets signed out to individuals; are the sets complete?
- (4) Are all tools properly cleaned, accounted for, and stored after each day's work?
- (5) Are organic tool sets complete, clean, and properly maintained?

f. *Area Selection and Layout.*

- (1) Do locations of operational areas facilitate both operations and defense?
- (2) Have alternate operational areas been selected?
- (3) Is the road net in the area adequate?
- (4) Are operating areas located as close as possible to supported units?

D-19. Organizational Maintenance.

a. *References:* AR 735-35, AR 750-1, AR 750-5, AR 750-51; SB 700-20; TM 38-750; DA Pam 750-series applicable equipment TM's.

b. *Maintenance Personnel.*

- (1) Are mechanics and drivers properly licensed?
- (2) Do maintenance personnel have an adequate knowledge of maintenance?
- (3) Do the personnel know about and properly use maintenance forms, records, and reports?
- (4) Are adequate procedures established to assure that quality maintenance is performed by maintenance personnel?

c. *Physical Condition of Shop and Equipment.*

- (1) Are cleanliness and fire prevention measures adequate?
- (2) Are there sufficient water outlets in case of fire.
- (3) Are lighting and heating adequate?
- (4) Are arrangement and organization conducive to good working conditions?
- (5) Are adequate shop tools and equipment available?

d. *Equipment Logs.*

- (1) Do logbooks contain appropriate historical records as prescribed by TM 38-750?
- (2) Are equipment records complete and up to date?
- (3) Do logbooks of vehicles that normally pull trailers contain the DA Form 2409 pertaining to the trailer?
- (4) Has the driver/crew kept entries current on daily log?

- (5) Has the driver/crew consolidated information from the daily log on to the monthly log?
- (6) Are lubrication services being recorded on the daily log correctly?
- (7) Does the organization that performs required modifications make the proper entry in the "Modification Completed" section of the DA Form 2408-5?

(8) Are facilities and controls adequate for the security of equipment logs?

(9) Is the TM that pertains to equipment serviceability criteria present in each logbook?

e. Organizational Control Record for Equipment (DA Form 2401).

(1) Do all columns except "Remarks" contain an entry on each line used?

(2) Does the dispatcher's signature, page number, and number of pages appear in the proper spaces of the upper right section of the form?

(3) Does the type of vehicle(s) properly fill the need as indicated under the "Load" column?

(4) Are listed destinations properly restrictive?

(5) Do entries in the "Type of Equipment" column list the "M" number of vehicle?

(6) Does the "Remarks" column show if prime mover was dispatched with trailer?

(7) Is DA Form 2401 used for more than 1 day's dispatching where possible?

f. Accident File. Does the dispatcher have a file for DA Form 2401 on vehicles involved in an accident investigation?

g. Preventive Maintenance Schedule and Record (DD Form 314).

(1) Are proper symbols used?

(2) Are symbols entered in pencil when services are scheduled; traced over in ink after the service has been completed?

(3) Is workload prorated evenly throughout the scheduling period?

(4) Are types of scheduled maintenance services performed within the 10-percent variance limitations (time/mileage)?

h. Equipment Inspection and Maintenance Worksheet, DA Form 2404.

(1) Are operators/mechanics recording only deficiencies on this form?

(2) Is the appropriate TM number entered and used?

(3) Is there a corrective action shown for all deficiencies listed?

(4) Are all necessary signatures present?

(5) Are timely repairs made when the operator reports a deficiency on the DA Form 2404?

(6) Are appropriate entries for services performed on the DA Form 2404 properly entered in the Equipment Daily or Monthly Log (DA Form 2408-1) and the Preventive Maintenance Schedule and Record (DD Form 314)?

i. Repair Parts and Equipment Supply.

(1) References: AR 710-2; SB 700-20.

(2) Is the procedure for requisitioning, receipt, and distribution of repair parts functioning effectively?

(3) Are supply requisitions (DA Form 2765) properly prepared, processed, and filed?

(4) Are received supply items properly recorded upon receipt?

(5) Are Record of Demands—Title Inserts (DA Form 3318's), completed on every repair part on hand in the supply room?

(6) Is the visible index folder used?

(7) Is the DA Form 3318 properly filled out?

(8) Are stored parts properly identified?

(9) Is DA Form 2765 properly completed and filed on turned in property?

(10) Is Exchange Tag (DA Form 2402), properly completed and used?

(11) General appearance and arrangement of repair parts.

(a) Are bins labeled and numbered?

(b) Are parts protected from dirt, dust, and moisture?

(12) Is excess property on hand?

- (13) Are oils, greases, and paints kept in a separate building or area?
- (14) Are rags, waste, and similiar material kept in metal containers?
- (15) Are fire prevention measures adequate?
- (16) Are allowances based on actual usage factors?
- (17) Are TM's for each type of organic equipment available to the organizational maintenance personnel?
- (18) Are all TM's up to date and current changes posted?
- (19) Do unit supply and maintenance representatives make frequent liaison visits to the direct support supply and maintenance activities?

APPENDIX E

UNIT MOVEMENT PLANNING CHECKLIST

Section I. GENERAL

E-1. General

This checklist may be used by unit commanders in checking the actions required for movement planning on a continuous basis, on receipt of a warning

order, and on receipt of a movement order. It is complete and comprehensive; however, it must be adjusted to meet the instructions in specific movement orders and local directives and procedures.

Section II. ACTIONS CONDUCTED ON A CONTINUOUS BASIS

E-2. Standing Operating Procedures (SOP's), Checklists, and Plans

SOP's, checklists, and plans for all assumed contingencies should be prepared and maintained up to date by all units. These documents should include but are not necessarily limited to the following:

- a. A pyramidal recall alert plan for personnel on leave, pass, temporary duty, special duty, etc.
- b. Unit intelligence SOP.
- c. Unit censorship SOP (AR 380-200, FM 30-28).
- d. Unit movement and loading plans for all modes (AR 220-10, AR 55-113, T 55-46-1, and transportability manuals indexed in DA Pam 310-4).
- e. Vehicle preparation for movement SOP.
- f. Convoy operations SOP.
- g. SOP's for detached parties (advance parties, quartering parties, and rear detachments).
- h. Unit personnel SOP.
- i. Unit mail clerk SOP.
- j. Unit mess SOP.
- k. Unit movement officer SOP.
- l. Unit movement staff SOP; via motor convoy, rail, air, and water (TM 55-604).

E-3. Personnel and Administrative Actions

- a. See that identification tags are in the possession of unit personnel.
- b. Ensure that immunizations are current.

c. Be sure that eyeglasses are on hand (two pairs), when appropriate; (also protective mask lens).

d. Issue "Code of Conduct" card (Graphic Training Aid (GTA) 21-50) to each person.

e. Prepare and maintain United States Strategic Army Forces (STRAF) readiness folders (if applicable) on all personnel to include—

(1) Preparation for overseas movement (POM) (units) personnel checklist (annex I).

(2) DA Form 1341A (Allotment Authorization) (to Start an Allotment); DA Form 1341c (Allotment Change/Correction) (to Change an Allotment); and DA Form 1341s (Allotment Discontinuance) (to Stop an Allotment).

(3) DD Form 528 (Geneva Convention Identification Card).

(4) DA Form 613 (Checklist for Preparation of Replacements for Oversea Movement).

(5) DD Form 1175 (Change of Address and Directory Record).

(6) Other documents as may be required locally.

f. Maintain a 90-day supply of blank forms (this is only a suggestion—change as required based on specific contingency plan).

g. Appoint unit safety officer.

h. Obtain athletic and recreation equipment for deployment, if desired (CTA 20-2).

i. Maintain a current list of ineligible, nondeployable personnel.

E-4. Security Actions

- a. Appoint unit security officer (AR 380-5).
- b. Appoint unit censorship officer (AR 220-10).
- c. Appoint unit intelligence officer or intelligence noncommissioned officer.
- d. Obtain personnel security clearances.
- e. Maintain list of alien personnel (AR 600-200).
- f. Maintain censorship forms (censorship stamps, if applicable) (AR 380-200).

E-5. Operations and Training Actions

- a. Maintain a pyramidal alert recall plan (recommend off-post telephone calls be limited to three calls per company size unit).
- b. Determine support requirements necessary from other units and/or the installations to support movement and loading plans such as labor, materiel, messing, vehicles, materials handling equipment, lighting, etc.
- c. Have available the date and results of the most current assembly test exercise and/or mobility test exercise.

d. Check status of unit training (annex II, training checklist).

e. Individual training.

(1) Maintain individual training records up to date.

(2) Maintain chemical-biological-radiological training records up to date.

(3) Insure that arms qualification is complete.

(4) Insure that training is conducted in accordance with the provisions of AR 220-10.

f. Maintain complete files of STRAF references and allied documents.

E-6. Logistic Actions

- a. Prepare unit movement and loading plans and submit to the installation transportation office.
- b. Request required number of CONEX containers and container inserts.
- c. Request required packing, loading, blocking, bracing, and tiedown materials.
- d. Designate a unit materiel readiness officer.
- e. Designate and train packing, loading, blocking, bracing, and documentation teams.

Section III. ACTIONS TO BE TAKEN ON RECEIPT OF WARNING ORDER

E-7. General

If the actions indicated in section II above have been accomplished, then upon receipt of a warning order the unit commander may immediately initiate implementing procedures. These procedures include but are not necessarily limited to those outlined in subsequent paragraphs.

E-8. Personnel and Administrative Actions

- a. Place pyramidal recall plan into effect.
- b. Conduct meeting of key unit personnel.
- c. Open unit journals and maintain logs.
- d. Brief all personnel in accordance with Articles 85 and 87, Uniform Code of Military Justice, and AR 220-10.
- e. Begin preparation of all items listed in each United States Strategic Army Forces folder.
- f. Prepare strength accounting records (AR 680-1).
- g. Prepare rosters for—
 - (1) Personnel shortages by military occupational specialty.
 - (2) Nondeployable personnel.
 - (3) Identification cards and tags required.

(4) Immunizations required.

(5) Requests for medical and dental records.

(6) Passengers for water movement.

h. Establish and maintain liaison with finance and accounting office.

i. Appoint personal affairs officer.

j. Request personnel replacements.

E-9. Security Actions

- a. Check security of unit area (FM 30-5).
- b. Set up a security guard system of all areas where movement preparations are conducted.
- c. Brief incoming and debrief departing personnel.
- d. Instruct personnel on safeguarding classified movement information (AR 220-10 and AR 380-55).
- e. Update listing of personnel security clearances and pending clearances.
- f. Make provisions for sensitive and security risk personnel.
- g. Make provisions for personnel flagged for security reasons (AR 600-31).
- h. Make provisions for restricted assignment personnel (AR 614-31 and AR 614-32).

- i. Prepare instructions for disposition of classified documents (AR 380-5 and AR 380-55).
- j. Maintain roster of alien personnel.

E-10. Operations and Training Actions

- a. Conduct training in accordance with AR 220-10 and AR 612-2.
- b. Submit request for relief of details, guards, and other commitments to the next higher headquarters.
- c. Submit request through channels for support required; for example, transportation, manpower, materials handling equipment, etc.
- d. Post individual training records.
- e. Submit request through channels for use of gas chamber, ranges, and other training areas, as required.
- f. Effect return of special duty personnel.
- g. Report to next higher headquarters the time when the unit is ready for administrative and in-ranks inspection.

Section IV. ACTIONS TO BE TAKEN ON RECEIPT OF MOVEMENT ORDER

E-12. Personnel and Administrative Actions

- a. Complete all actions initiated in the warning order phase.
- b. Initiate required and/or desired pay actions, such as—
 - (1) Partial and advance payments to members.
 - (2) Allotment actions.
- c. Complete installation clearances.
- d. Personal affairs officer will assist personnel in—
 - (1) Wills.
 - (2) Powers-of-attorney.
 - (3) Clearance of quarters.
 - (4) Movement of families, if required.
 - (5) Disposition of personal property; for example, automobiles, boats, etc.
- e. Insure that all personnel shortages are filled.
- f. Complete unit fund and unit fund property actions required.
- g. Conduct orientation for oversea duty (AR 612-2). If location of oversea area is classified, orientation may be given during transportation to area.
- h. Establish leave schedules.

E-13. Security Actions

- a. Complete all actions initiated in the warning order phase.

E-11. Logistic Actions

- a. Establish and send liaison officer to appropriate installation transportation office.
- b. Verify as requested or on hand the following:
 - (1) MILVAN and/or CONEX containers.
 - (2) CONEX container inserts.
 - (3) Packing, banding, blocking, chocking, and bracing materials.
- c. Verify required supplies and equipment held at station level.
- d. Follow up on outstanding requisitions.
- e. Prepare POM requisitions.
- f. Request technical assistance teams, if desired (AR 220-10).
- g. Prepare DA Form 2062 (Hand Receipt/Annex No.), for station property.
- h. Fit and inspect individual protective masks.

- b. Insure that all actions in intelligence standing operating procedure have been taken.
- c. Insure that a security check of area is made prior to departure of unit if move is classified.
- d. Use unit identification codes (UIC) to eliminate classified information from documents (AR 380-55).
- e. Insure that written instructions are available for handling classified documents accompanying the unit or to be forwarded to the unit's destination (AR 345-20).
- f. Have plan for emergency removal or destruction of classified material while en route to or stationed at an oversea area.
- g. Insure that written instructions are available for the disposition of classified documents to be left behind (AR 340-2).
- h. Make provisions for removal of unit identification from personal equipment and vehicles, if required.
- i. Insure that classified material is packed for shipment in accordance with AR 380-55.
- j. Insure that unit has authorized maps.
- k. Insure that escape and evasion training is completed.
- l. Insure that training in subversion and espionage directed against the US Army is completed.

E-14. Operations and Training Actions

- a. Complete all actions initiated in the warning order phase.
- b. Conduct additional training inspections as required.

E-15. Logistic Actions

- a. Complete all actions initiated in the warning order phase.
- b. Conduct equipment showdown inspection.
- c. Replace equipment shortages and unserviceable items.
- d. Turn in organizational equipment not authorized by the movement order.
- e. Arrange for issue of equipment authorized by the movement order.
- f. Draw all blocking, bracing, chocking, tiedown, and crating materials.
- g. Draw CONEX transporters and inserts.
- h. Commence packing organizational equipment and processing of vehicles for overseas.
- i. Complete movement documentation.
- j. Complete packing and crating (AR 220-10).
- k. Insure that MILVAN's and/or CONEX con-

tainers are packed, braced, and blocked (AR 55-165 and AR 55-1).

l. Apply markings to all packages and containers (AR 220-10 and DOD Regulation 4500.32-R). Vehicles are marked in accordance with TM 55-604.

m. Prepare, process, pack, and mark dangerous material and prepare certificates (AR 220-10).

n. Designate "to accompany troops" equipment and mark (AR 220-10)

o. Issue chemical warfare agent protection and treatment set to each individual (AR 220-10).

p. Process turn-in of emergency medical kits.

q. Pack guidon, colors, and distinctive flags.

r. Issue containers for packing and shipping of personal property.

s. Make arrangements for appointment of custodian of privately owned vehicles and personal effects who will have authority to make disposition after movement of unit. Reference DD Form 1299 (Application for Shipment and/or Storage of Personal Property) (AR 55-71); and power-of-attorney, as applicable.

t. Prepare vehicles for movement (AR 220-10).

u. Figure E-1 shows an organizational chart of a suggested unit movement staff organization.

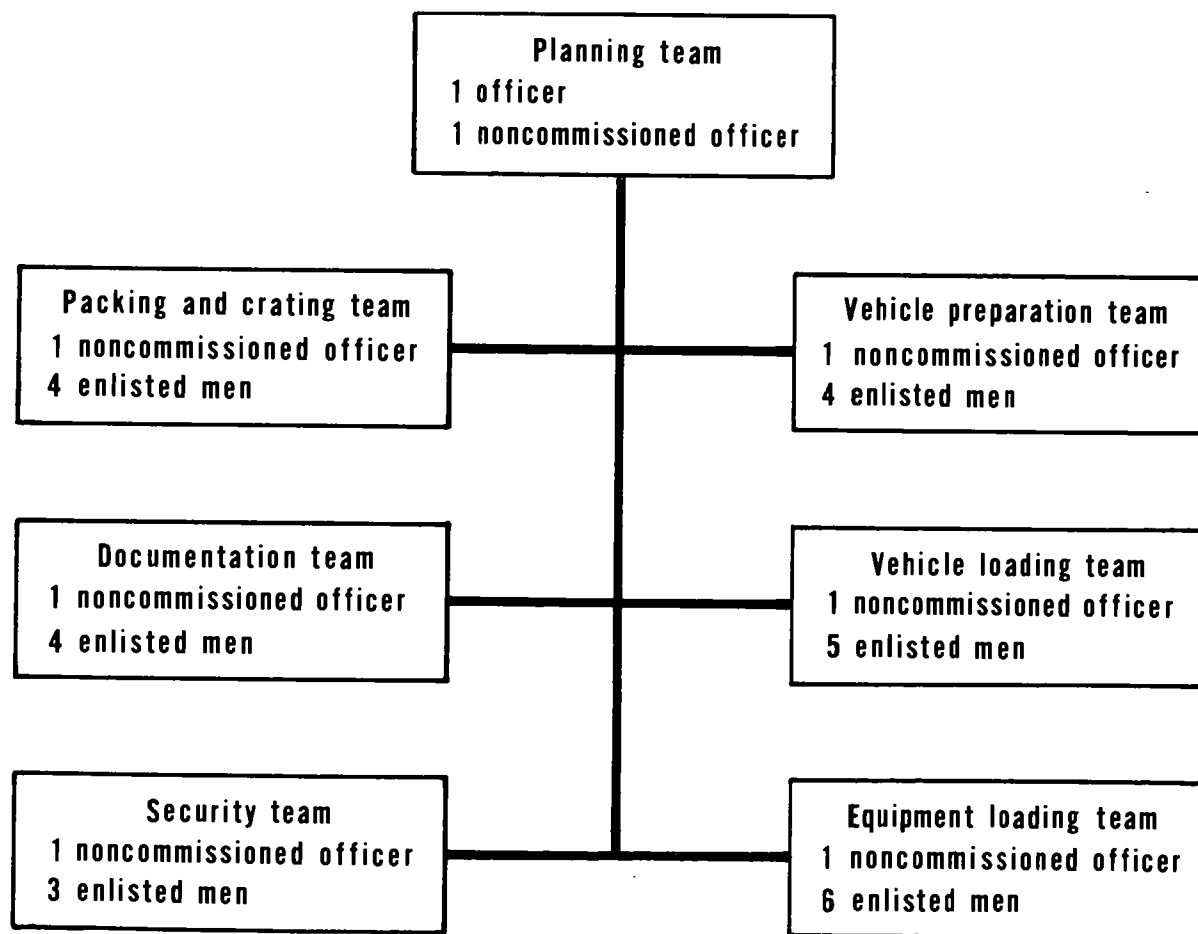


Figure E-1. Suggested unit movement staff organization.

ANNEX I TO APPENDIX E
SUGGESTED PREPARATION FOR OVERSEA MOVEMENT (POM)
(UNITS) PERSONNEL CHECKLIST

UNIT _____ NAME _____ GRADE _____

Action
needed

Completed

GENERAL

_____	_____	Attended personal affairs orientation on _____.
_____	_____	Attended legal affairs orientation on _____.
_____	_____	DA Form 20 (ENLISTED QUALIFICATION RECORD) (AR 600-200)
_____	_____	Classification interview conducted on _____.
_____	_____	Item 2, Grade.
_____	_____	Item 3, Date of rank.
_____	_____	Item 11, Ordered to active duty.
_____	_____	Item 16, Basic active service date, basic pay entry grade, basic enlisted service date.
_____	_____	Item 16, Last permanent change of station.
_____	_____	Item 16, Foreign service availability code.
_____	_____	Item 17, Physical status.
_____	_____	Item 22, Military occupational specialty.
_____	_____	Item 24, Aptitude tests.
_____	_____	Item 25, Other tests.
_____	_____	Item 28, ATP 21-114.
_____	_____	Battle indoctrination or waiver.
_____	_____	Code of conduct.
_____	_____	Geneva Convention.
_____	_____	Chemical, biological, and radiological.
_____	_____	Course B, military justice.
_____	_____	Item 29, Weapons qualification.
_____	_____	Item 33, Appointments and reductions.
_____	_____	Item 34, Civilian occupation.
_____	_____	Item 46, Submission of duplicate copy of DA Form 20 and changes.
_____	_____	New DA Form 20 Needed.

DA FORM 66, OFFICER QUALIFICATION RECORD (AR 611-103)

_____	_____	Classification interview conducted on _____.
_____	_____	Item 2, Grade.
_____	_____	Item 6, Date of current tour.
_____	_____	Item 12, Appointments.
_____	_____	Item 14, Physical status.
_____	_____	Item 18, Review of assignments.
_____	_____	Item 23, Weapons qualification.
_____	_____	Item 28, Civilian occupation.

Action needed	Completed	
_____	_____	Item 33, Battle indoctrination or waiver.
_____	_____	Code of conduct.
_____	_____	Geneva Convention.
_____	_____	Chemical, biological, and radiological.
_____	_____	Military justice.
_____	_____	New DA Form 66 needed.
 201 FILE, MILITARY PERSONNEL RECORDS JACKET (MPRJ), US ARMY (AR 640-10)		
_____	_____	DD Form 220, (Active Duty Report) (AR 135-210).
_____	_____	DD Form 53, (Notification of Entry into Active Military Service, (AR 601-49).
_____	_____	DA Form 41, (Record of Emergency Data) (AR 600-10).
_____	_____	VA Form 29-8286, (Servicemen's Group Life Insurance Election) (AR 608-2).
_____	_____	DD Form 98, (Armed Forces Security Questionnaire) (AR 604-10).
_____	_____	DD Form 398, (Statement of Personal History) (AR 604-5).
_____	_____	DD Form 4, (Enlistment Contract—Armed Forces of the United States) or DD Form 47, (Record of Induction).
_____	_____	DA Form 873, (Certificate of Clearance and/or Security Determination) (AR 604-5).
_____	_____	DD Form 369 (Police Record Check) (AR 606-15).
_____	_____	DA Form 1294, (Record of Personnel with Special Qualifications) (AR 600-200).
_____	_____	DA Form 2431, (Personnel Suspense) Card (DA Pam 600-8).
_____	_____	Current weapons qualification order in 201 file.
_____	_____	201 file needs complete screening.
 UNITED STATES STRATEGIC ARMY FORCES (STRAF) FOLDER		
_____	_____	DA Form 613, (Checklist for Preparation of Replacements for Oversea Movement).
_____	_____	DD Form 528, (Geneva Convention Identification Card).
_____	_____	Personal Affairs Checklist (Local SOP).
_____	_____	DD Form 1175, (Change of Address and Directory Record).
_____	_____	DA Form 2142, (Request for Pay Action).
_____	_____	DD Form 137, (Application for Basic Allowance for Quarters for Members With Dependents).
_____	_____	DD Form 1101, (Household Goods Storage Information).
_____	_____	DD Form 1299, (Application for Shipment and/or Storage of Household Goods).
_____	_____	DD Form 884, (Application for Transportation for Dependents).
 FINANCE (AR 37-104-2 AND AR 37-106-1)		
_____	_____	DA Form 3060-R, (Class X Allotment Authorization/Discontinuance).
_____	_____	DA Form 1341A, (Allotment Authorization).
_____	_____	DA Form 1341c, (Allotment Change/Correction).
_____	_____	DA Form 1341s, (Allotment Discontinuance).
_____	_____	DA Form 1341-1, (Allotment Document) (for Other Than US Savings Bonds).
_____	_____	DA Form 1341.2, (Allotment Document) (for U.S. Savings Bonds).

Action
needed

Completed

TRAINING

Individual Training Record.

LEGAL ASSISTANCE

Power of Attorney.

Will.

IMMUNIZATIONS (AR 40-562)

PHS Form 731, International Certificates of Vaccination.

IDENTIFICATION CARDS, TAGS, AND BADGES (AR 606-5)

DD Form 2A, (Armed Forces Identification Card) (Active Duty).

DD Form 1173, (Uniformed Services Identification and Privilege Card).

Identification Tags.



ANNEX II TO APPENDIX E
SUGGESTED UNIT TRAINING CHECKLIST

1. Does the unit have on hand all applicable publications?
2. Does the unit have standing operating procedures (SOP's) for training and field operations?
3. What percent of unit personnel are preparation of replacements for oversea movement (POR) qualified?
 - a. Battle indoctrination _____.
 - b. Qualification in arms _____.
 - c. Chemical, biological, and radiological (CBR) _____.
 - d. Survival, evasion, and escape (SEE) _____.
 - e. Code of conduct _____.
 - f. Geneva Convention _____.
4. What percent of personnel are physical combat proficiency test (PCPT) qualified?
5. Have all unit personnel qualified/familiarized with primary weapon and have crew members of crew-served weapons familiarized within the last 12 months?
6. When did unit conduct last field training exercise/Army training test (FTX/ATT)?
7. How many unit personnel have had 6 months active duty?
8. How many unit personnel are military occupational specialty (MOS) qualified?

MOS

AUTHORIZED

ON HAND

QUALIFIED



APPENDIX F

GUIDE FOR PREPARATION OF UNIT STANDING OPERATING PROCEDURES

F-1. General

Standing operating procedures (SOP's) follow a generally standardized format in that they have a heading, a body, and a close (authentication).

a. Heading. The heading identifies the unit which prepares the SOP along with its location or mail address, gives the date of issue, provides a file or SOP number for easy reference, and gives the SOP title.

b. Body. The information contained in the body of the SOP varies to meet the needs of the preparing unit. It provides a general introduction to the SOP as shown in section I of the sample outline in paragraph F-3. Subsequent sections go into a more detailed coverage of one or more specific major operational areas of the unit (sections II through VII of the sample outline).

c. Close (Authentication). The close of the SOP contains the signature(s) of either or both the commander and the officer authenticating the SOP,

which makes the SOP official; a list of annexes to the SOP; and the distribution.

F-2. Outline

The outline below is offered as a guide in the preparation of SOP's within a transportation unit.

a. This outline provides for one comprehensive SOP covering major functional areas of a unit. In the interest of ease of preparation and use and in accordance with the desires of the commander, any or all sections may be prepared as individual SOP's.

b. The format for the heading and close is considered adequate for all purposes. However, local directives may require some changes to this format or the information contained therein.

c. The subject matter listed within the body of the SOP is not intended to be restrictive or all-inclusive. Additions, deletions, and/or resequencing may be done as is seen fit, and subject matter may be discussed in as brief or as detailed a manner as the commander desires.

F-3. Sample Outline for a Transportation Unit SOP

A sample outline for a transportation unit SOP is shown below. For a sample chemical-biological defense annex and a nuclear defense annex to a company SOP, see annexes I and II, respectively, to this appendix.

Unit designation

Unit location or mail address

Date

File or SOP number

(Standing Operating Procedure)

Title

Section I. GENERAL

1. Subject
2. Application (function/mission to which SOP applies)
3. Purpose and Scope
4. References (manuals, regulations, SOP's, and directives of higher headquarters)
5. Definitions
6. Mission
6. Capabilities
8. Responsibility for Preparation, Changes, Revision
9. Effective Date(s)
10. Procedure Guides

Section II. COMMAND, STAFF, AND LIAISON

11. Organization
 - a. Normal.
 - b. Special internal attachments and/or organization.
 - c. Normal and special external attachments and/or support.
12. Command Post
 - a. Normal location.
 - b. Change of location—reporting coordinates and time.
 - c. Forward/alternate command post.
 - (1) Situation in which required.
 - (2) Command post organization.
 - (3) Personnel and equipment.
13. Staff Duties
 - a. Special/additional duties of unit officers.
 - b. Duties of attached personnel (military police, medical, etc.).
14. Liaison
 - a. Selection and duties of liaison officers.
 - b. Responsibilities for liaison—higher, lower, and adjacent units and headquarters and supported or supporting units.
15. Planning Responsibilities

Section III. ADMINISTRATION

16. Normal Channels
17. Reports
 - a. Routine.
 - b. Special.
 - c. Submission.
 - (1) Title and reports control symbol.
 - (2) Report form.
 - (3) Due date.
 - (4) Number of copies and distribution.
 - (5) Negative report (required/permissible).
18. Promotion Policies
 - a. Officer.
 - b. Enlisted.
 - c. Battlefield.
19. Courts-Martial
 - a. Jurisdiction.
 - b. Location.

- c. Preparation and submission of charges.
- d. Administrative procedures prior to, during, and after trial.
- 20. Mail
 - a. Handling of official mail.
 - b. Handling of personal mail.
 - c. Registered and insured mail.
- 21. Leaves and Passes
 - a. Command policy—conduct and venereal disease and delinquency control.
 - b. Authority to grant.
 - c. Sign out(in) register.
- 22. Journal and History
 - Responsibility for unit journal and history.
- 23. Military Publications
 - a. Receipt and filing.
 - b. Availability in unit.
 - c. Requisition of special and/or additional publications.
- 24. Handling of Prisoners of War
 - a. Provisions of and reference to FM 19-40 and FM 27-10.
 - b. Special instructions to person(s) effecting capture.
- 25. Awards and Decorations
 - a. Channels for submission.
 - b. Form.
 - c. Presentation.
- 26. Orders (FM 101-5)
 - a. Types.
 - b. Preparation.
- 27. Billets and Bivouacs
 - a. Policies—occupation and clearance.
 - b. Billeting and/or cleanup parties.

Section IV. MOVEMENT

- 28. General (references to SOP of higher headquarters)
- 29. Movement by Motor (FM 55-30; TM 55-310)
 - a. Coordination with higher headquarters.
 - b. Preparation of unit vehicles.
 - c. Convoy operations (motor march).
 - (1) Strip maps.
 - (2) Route reconnaissance.
 - (3) Makeup of convoy (serials and march units).
 - (4) Control personnel.
 - (5) Convoy and vehicle distance and time factors (vehicle and column gaps; road distance).
 - (6) Start point and release point.
 - (7) Rate of movement (speed, pace, and rate of march).
 - (8) Time lengths (convoy, serial, march unit).
 - (9) Messing and refueling.
 - (10) Rest halts.
 - (11) Accident and breakdown procedures.
 - (12) Operating during hours of darkness (control, blackout measures).
 - (13) Communications.

- (14) Supporting services (fuel, maintenance, medical).
- (15) Use of guides, traffic escorts.
- (16) Loads and loading.
- (17) Cargo security.
- (18) Active and passive defense measures (sec V).

30. Vehicle and Equipment Operations

- a. Motor pool (task vehicles).
 - (1) Forms, records, and reports.
 - (2) Receipt of commitments.
 - (3) Dispatch of vehicles.
 - (4) Vehicle servicing.
 - (5) Vehicle maintenance.
- b. Procedures governing use of unit administrative vehicles.

31. Movement by Rail

- a. Unit loading plan (TM 55-604).
- b. Coordinating actions with staff officers of higher headquarters.
 - (1) S1 (Administration).
 - (a) Movement policies.
 - (b) Troop list and orders.
 - (c) Transportation movements matters.
 - (2) S2 (Security). Security requirements.
 - (3) S3 (Plans and Operations).
 - (a) Requirements for rolling stock.
 - (b) Coordination of loading plan.
 - (c) Loading area and schedule.
 - (d) Troop entraining and detraining.
 - (4) S4 (Support Services).
 - (a) Initiation of transportation request.
 - (b) Troop messing.
 - (c) Blocking and dunnage.
 - (d) Shipping documents.

32. Movement by Air

- a. Unit loading plan (TM 55-604).
- b. Coordinating actions with staff officers of higher headquarters.
 - (1) S1 (administration). (Same as motor.)
 - (2) S2 (security). (Same as motor.)
 - (3) S3 (plans and operations).
 - (a) Determination of aircraft required.
 - (b) Coordination of loading plan.
 - (c) Loading schedule and area.
 - (d) Troop emplaning and deplaning.
 - (e) Explanation of air transport techniques.
 - (4) S4 (support services).
 - (a) Initiation of transportation request.
 - (b) Availability of tiedown devices.
 - (c) Preparation of weight-of-equipment data for loading computations.
 - (d) Shipping documents.

(e) Number and type of vehicles required to load and unload aircraft.

(f) Troop messing.

33. Movement by water

a. Unit loading plan (TM 55-604).

b. Coordination actions with staff officers of higher headquarters.

(1) S1 (administration). (Same as motor.)

(2) S2 (security). (Same as motor.)

(3) S3 (plans and operations).

(a) Determination of shipping requirements.

(b) Coordination of loading plan.

(c) Loading schedule and area.

(d) Troop embarkation and debarkation.

(4) S4 (support services).

(a) Initiation of transportation request.

(b) Troop messing.

(c) Shipping documents.

Section V. SECURITY

34. General (Policies and Responsibilities)

35. Security During Movement by Motor

a. Unit security guards (air, ground).

b. Attached security forces.

c. Manning of vehicular weapons.

d. Action in event of attack by—

(1) Air.

(2) Mechanized warfare.

(3) Ground troops and guerrillas (including ambush).

(4) Nuclear-biological-chemical (NBC) warfare.

e. At-halt defense and camouflage measures.

36. Security in Bivouac

a. Camouflage.

b. Perimeter defense.

c. Mines and boobytraps.

d. Action in event of attack by—

(1) Air.

(2) Mechanized warfare.

(3) Ground troops and guerrillas.

(4) NBC warfare.

e. Sentries and outposts.

f. Joint security measures.

37. Attack Warning Signals

a. Air (airborne).

b. Mechanized.

c. Ground troops and guerrillas.

d. NBC warfare.

38. Fire Safety and Firefighting

a. Fire plan.

b. Fire personnel and duties.

c. Safety plan and rules (motor pool, mess, etc.)

39. Alert Plans

- a. Unit alert plan.
- b. Alert roster.
- c. Arms and equipment.
- d. Phase system for alert warnings.

40. Destruction of Equipment

- a. Unit plan.
- b. Team personnel and duties.
- c. Order for destruction.

41. Area Damage Control

- a. Unit plan.
- b. Team personnel and duties.
- c. Team equipment.

Section VI. COMMUNICATIONS

42. General

- a. Types used.
- b. Priorities for use.
- c. Alternate means.

43. Communications Within and Between Units

- a. Radio net.
- b. Telephone system.
- c. Other available means.
- d. Responsibilities for installation.

44. Communications Procedures

- a. Voice procedures (radio, telephone).
- b. Visual, sound, messenger procedures.
- c. Communications security (includes coding and decoding).
- d. Reference to signal operation instructions and standing signal instructions of higher headquarters.p45.

45. Communications Maintenance Responsibility

- a. Commander.
- b. Communications officer.
- c. Users and operations.

Section VII. SUPPLY AND MAINTENANCE

46. General (Refer to SOP of higher headquarters; designate support agencies if practicable.)

47. Rations

- a. Pickup.
- b. Daily ration return and ration cycle.
- c. Reserve rations carried:
 - (1) By unit.
 - (2) By individuals away from unit.

48. Water

- a. Authorized source.
- b. Purification expedients.
- c. Water economy.

49. Clothing and Equipment

- a. Requisition days for various services.
- b. Pickup and issue procedures.

- c. Turn-in procedures (salvage, replacement).
- d. Authorized droppages.
- 50. Petroleum, Oil, and Lubricants
 - a. Resupply procedures.
 - b. Reserve and basic load.
 - c. Fuel economy.
- 51. Ammunition
 - a. Resupply procedures.
 - b. Forms and/or certificates used.
 - c. Basic load.
 - d. Salvage.
- 52. Maintenance of Vehicles, Vessels, and Equipment
 - a. Operator maintenance.
 - b. Organizational maintenance.
 - c. Direct and general support services.
 - d. Forms, records, and reports.
 - e. Responsibilities of maintenance officer.
- 53. Repair Parts
 - a. Parts and equipment records.
 - b. Requisitioning procedures.
 - c. Authorized stockage levels.
- 54. Evacuation Channels for Vehicles, Vessels, and Equipment
 - a. Procedures.
 - b. Forms, records, and reports.

Last name of commander (typed)

Rank

Annexes: (List all which are attached: may include such as uniforms regulations; safeguarding and destruction of classified documents; rear area protection plans, loading plans, training, etc.)

- A.
- B.
- C.

DISTRIBUTION: (Indicate proper distribution.)

OFFICIAL:

Signature of authenticating officer

Typed name (last) of authenticating officer

Title



ANNEX I TO APPENDIX F

SAMPLE CHEMICAL AND BIOLOGICAL DEFENSE ANNEX TO
COMPANY STANDING OPERATING PROCEDURE (SOP)

Unit designation

Unit location or mail address

Date

File or SOP number

Annex — (Defense Against Chemical and Biological Attacks) to SOP No. —

1. General

This annex standardizes procedures for defense against chemical and biological attacks and for operations in a contaminated environment.

2. References

FM 21-40, FM 21-41, FM 21-60, TM 3-220, TM 3-221, and AR 220-58.

3. Organization

a. Subordinate Units. Each platoon leader will appoint a chemical and biological (CB) defense noncommissioned officer (NCO) and alternates to assist in the conduct of CB defense training and operations in a contaminated environment.

b. CB Defense Team (also functions in nuclear defense team role)(see para 3a, nuclear defense SOP). A CB defense team will be formed to operate under the supervision of the company commander. This team consists of a CB team chief (CB defense officer), two CB defense NCO's (one NCO to supervise the chemical detection and radiological survey parties and the other NCO to supervise the decontamination squad), and the personnel described below.

(1) Two chemical detection (and radiological monitoring) parties, one primary and one alternate, will be trained for each chemical agent detector kit and chemical agent alarm (and radiological survey meter) authorized the unit. Chemical reconnaissance personnel will be trained for the detection of contaminated terrain.

(2) A chemical decontamination squad will maintain a capability to perform minimum necessary decontamination of unit equipment and areas.

(3) Support and security personnel, as required.

4. Responsibilities

a. Unit Commander. The unit commander is responsible for—

(1) Proficiency of the unit in all phases of CB defense.

(2) Designation and control of the unit mission-oriented protective posture (wearing of protective clothing and equipment) for operations in a chemical environment, consistent with the unit mission, temperature, and anticipated work rate.

(3) Insuring that appropriate warnings and alarms are transmitted on the unit voice radio command net immediately on receiving an alarm from the automatic chemical agent alarm system or other sources.

b. Unit CB Defense Officer. The unit CB defense officer makes necessary arrangements for personnel to operate any chemical protective and defensive equipment required, such as a collective chemical protection shelter and decontamination station.

c. Platoon Leader. The platoon leader designates personnel to set up the M8 automatic chemical agent alarm when occupying a new position.

d. CB Defense Team. The unit CB defense team uses a chemical agent detector equipment and the chemical agent alarm to detect a chemical attack, to reconnoiter terrain to be traversed or occupied by the unit, and to locate contaminated areas and mark their boundaries with designated markers. It decontaminates within its capabilities vital areas and equipment designated by the unit commander.

e. Sentries/Guards. Personnel designated for sentry/guard duty will have the following additional duties:

- (1) Be especially alert to chemical and biological agents and means of delivery.
- (2) Understand the unit's CB warning system and means of warning.
- (3) Know the location of company and platoon command posts.

f. All Personnel. All personnel must understand the unit system of personnel identification and recognition (para 9). All personnel must understand the indications of a chemical or biological attack and sound the alarm, when required.

5. Alarms and Warning Systems

Company radio or telephone operators will alert the platoons on the company radio or telephone net of a chemical or biological attack, will sound the local alarm (*b* below), and will transmit the appropriate chemical or biological attack report to the battalion.

a. Unit Chemical and Biological Attack Warning. The chemical alarm and warning system consists of the M8 automatic chemical agent alarm, chemical agent detector kits, and the radio or telephone warning net. Warnings of a chemical or biological attack will be transmitted on the company command net with a FLASH precedence to all units, using brevity code "GAS" for a chemical attack and "MASK" for a biological attack.

b. Local Alarm. The local alarm for a chemical or biological attack is given by the individual after putting on his protective mask (if not already masked according to the mission-oriented protective posture), and then giving the approved hand signals, the vocal alarm, and/or sounding the percussion-type alarm located at the unit command post. The vocal alarm for a chemical or biological spray attack is "SPRAY," for a chemical attack by any other means is "GAS," and for a biological attack by any other means is "MASK."

6. Procedures

If alerted to a possible chemical or biological attack, units will assume that all artillery and air attacks are chemical attacks (until proved otherwise) and will take appropriate defensive action for a chemical attack. Individuals will mask automatically when under artillery and air attack, when they observe symptoms of chemical agents in personnel, or when they hear the chemical or biological attack alarm.

a. Action Before Chemical Attack. Units alerted to a possible or imminent chemical attack will acknowledge receipt of the alert and insure that—

- (1) Chemical detection and warning systems are operational.
- (2) Individual protective measures and the mission-oriented protective posture are adequately controlled.
- (3) Collective protection shelters, if any, are operational.

b. Action During Chemical Attack. Units will alert all personnel and make sure that they are adhering to the designated mission-oriented protective posture.

c. Action After Chemical Attack.

- (1) If appropriate, the unit commander will consider changes in the mission-oriented protective posture.
- (2) Personnel will check their clothing and equipment to determine whether they are contaminated. If contaminated, personnel apply first aid and decontaminate themselves without orders. They will draw fresh clothing and equipment, as required, from the supply point. Contaminated clothing will be processed at the supply point as directed. Personnel assigned to crew-served weapons and equipment will decontaminate them with STB slurry or DS2, as directed.

(3) Decontaminating personnel will assist in decontaminating areas, vehicles, and equipment designated by the unit commander.

(4) Filter elements of M17-series protective masks will be replaced as required.

7. Decontamination

a. Individual. Individuals will decontaminate themselves and their equipment, when required, and continue their mission.

b. Crew-Served Weapons and Equipment. Crews assigned to the weapons and equipment will decontaminate them with STB slurry or DS2 and continue their mission.

c. Units. The unit commander will designate what must be decontaminated and the priority for decontamination.

8. Intelligence

All enemy chemical attacks will be reported to the battalion with or without the identity of the agent used. If the agent used cannot be detected by the chemical agent detector kit, this information will be included in a subsequent report.

9. Identification of Personnel

When personnel are wearing chemical protective overgarments and protective mask and hood, the following identification procedures will be used:

a. Each person in a platoon will be issued two lengths of engineer tape (approximately 18 inches) color coded by platoons as follows:

- (1) 1st platoon—purple.
- (2) 2d platoon—scarlet.
- (3) 3d platoon—gold.
- (4) Maintenance section—blue.

b. Strips will be attached to the web gear, with one placed on the pistol belt center rear and one placed on the harness below the first aid packet.

c. Subdued rank insignia will be worn on all headgear; 3-inch lengths of masking tape, bearing the individual's name, will be attached to the front and rear of the helmet.

d. Squad leaders will wear a color-coded (by platoon) triangle of masking tape above their name tape on the helmet; platoon sergeants will wear a color-coded diamond.

/s/
/t/ **KARL THURSTON**
Captain, TC
Commanding



ANNEX II TO APPENDIX F
 SAMPLE NUCLEAR-RADIOLOGICAL DEFENSE ANNEX TO
 COMPANY STANDING OPERATING PROCEDURE (SOP)

Unit designation

Unit location or mail address

Date

File or SOP number

Annex ____ (Defense Against Nuclear Attack and Radiological Hazard) to SOP No. ____

1. General

This annex prescribes procedures for defense against nuclear attack and radiological hazard. It provides guidance for—

- a. Procedures to be followed by individuals and units during and following a nuclear attack.
- b. Predictions of fallout from a nuclear burst.
- c. Radiological monitoring and survey.

2. References

FM 21-40, FM 21-41, FM 3-12, TM 3-210, and AR 220-58.

3. Organization

Unit personnel will be used on an additional duty basis.

a. Nuclear Defense Team. Chemical and biological (CB) defense team will also function as nuclear team (para 3b to CB annex).

b. Labor Squad. The company will organize, equip, and train a labor squad consisting of one noncommissioned officer (NCO) or specialist and nine enlisted men for employment as directed. Equipment will include one 2½-ton truck with trailer, and other tools and equipment as indicated in unit area damage control SOP.

c. Emergency Decontamination Squad. The company will organize, equip, and train an emergency decontamination squad consisting of one NCO or specialist and six enlisted men as required for employment on call of the unit commander. Equipment and supplies will include one 2½-ton truck with trailer, shovels, dosimeters and survey meters, personnel monitoring instruments, and such chemical decontaminating equipment and material as available.

4. Responsibilities

a. Unit Commander. The commander is responsible for—

- (1) Proficiency of the unit in all phases of defense against nuclear attack and radiological hazards.
- (2) Training and availability of personnel.
- (3) Actions to minimize exposure to radiological hazards.

b. Nuclear Defense Team. This team monitors terrain or surveys radiologically contaminated areas, as directed, and marks the radioactive boundaries with "ATOM" markers.

5. Warnings and Alarms

Designated personnel will report nuclear attacks and fallout warnings through the command radio or telephone net, sound the local alarm when appropriate, and transmit required reports to the battalion S2. The brevity code for fallout is "FALLOUT."

a. Unit Report. Information relative to nuclear burst and fallout will be reported.

b. Local Alarm. The local alarm will be given when fallout is expected in the unit area. The local alarm for fallout is "FALLOUT."

6. Procedures Immediately Following a Nuclear Attack

Immediately following a nuclear attack, the following actions will be taken automatically, without orders:

a. Individuals and crews will establish contact with immediate supervisors.

b. Individuals will take the following actions under fallout conditions consistent with the mission:

(1) Acquire the following protection in the order listed (remain in the shelter until the area has been declared safe or until exit is required for urgent reasons):

(a) Underground shelter.

(b) Foxhole with overhead cover.

(c) Buildings of masonry construction in preference to buildings of wood or other construction.

(d) Clothing or a shelter half to cover all exposed skin; and additional cover under shelter halves, blankets, or canvas.

(e) Vehicles with sandbags used to cover floor and sides.

(2) After fallout has stopped, decontaminate themselves, if required, by taking the actions listed below, when practicable:

(a) Brush clothing and equipment thoroughly to remove fallout (this should be done away from the area that the individual will occupy).

(b) Bathe, if possible (preferably by showering), and change clothing.

(c) Decontaminate individual equipment by brushing, wiping, and, as appropriate, scrubbing.

(d) Decontaminate the immediate area where located by turning soil (or hosing, if practicable).

(e) Clean equipment, as required.

(3) Maintain full canteens and sufficient rations for at least a 24-hour stay in the contaminated area.

(4) Wear respirator or handkerchief over nose and mouth if dust hinders breathing.

(5) When practicable, reduce stay time in the contaminated area.

c. Subordinate units will—

(1) Turn on radiac instruments and start continuous monitoring.

(2) Report to next higher headquarters any element out of contact.

(3) Take the following protective measures:

(a) Prepare for early movement.

(b) Displace, as directed to avoid radiological hazard, and continue mission.

(4) Avoid doses in excess of radiation exposure guide.

(5) Report information relative to nuclear burst by required report.

(6) Report initial time of arrival and dose rate of fallout in the unit area.

7. Radiological Fallout Prediction

The company monitors the battalion net for fallout prediction data. When the company observes a nuclear burst and before receiving fallout prediction data, the simplified fallout prediction method is used to obtain an estimate of the potential hazard area, provided that ground zero can be approximated. The M4A1 nuclear yield calculator of the M28A1 nuclear calculator set, nuclear burst data, the division effective downwind message, and the M5A1 radiological fallout predictor are used to predict the fallout area.

8. Radiological Monitoring

The company will maintain a monitor at the command post (CP). When appropriate, the monitor will make routine checks of the company area and CP each hour.

a. Continuous monitoring will be initiated—

- (1) On receipt of a fallout warning.
- (2) When ordered by the commander.
- (3) After a nuclear burst has been seen or heard.
- (4) When the company is moving.
- (5) When a nuclear strike is reported.
- (6) When radiation above 1 rad/hr is detected by periodic monitoring.

b. During continuous monitoring, all readings will be made in the same location, except when the company is moving or when other factors make it impracticable. The following information will be reported to the battalion:

- (1) The location, dose rate, and time of the initial dose rate of 1 rad/hr.
- (2) The peak dose rate recorded.

Note. The dose rate, location, and time on an increase or decrease of 10 rads/hr are recorded until the dose rate reaches 50 rad/hr. Any increase or decrease from 50 rad/hr will be reported to the battalion. These dose rates are used for example only. Frequency of readings will depend on the situation, and dose rate criteria will be specified by higher headquarters.

- (3) The correlation factor data for the shelter or vehicle of the monitor.
- (4) Summary report described in paragraph 9c below.

c. Continuous monitoring will stop—

- (1) On instructions from the battalion.
- (2) When the dose rate falls below 1 rad/hr (except for units on the move).

9. Reporting Procedure

a. The initial detection of 1 rad/hr will be reported to the company with an IMMEDIATE precedence on the company command net. The report will be made in the clear (unless otherwise specified), giving location, dose rate, and time detected. The company will submit a report to battalion with an IMMEDIATE precedence.

b. Subsequent reports will be screened and consolidated by the company. These reports will include the average level of radioactivity in the company area and the location and time of the highest dose rate in the area. Reports will be submitted as the dose rate in the area is rising, at the first indication that the dose rate is beginning to decline, and after that as the battalion directs. These reports will be assigned an IMMEDIATE precedence, consistent with operational requirements for communication facilities.

c. A summary report will be submitted to battalion, when directed. This may consist of an overlay showing the radiation situation in the area as compiled from monitoring reports.

10. Radiological Surveys

Radiological surveys will be conducted only on orders of the battalion. Ground survey parties will follow the prescribed course and will report the dose rate, location, and time of reading at points designated. Readings will be taken with the survey meter held approximately 1 meter above the ground (waist high). In open areas, readings will be taken at least 10 meters from buildings or other large structures. In built-up areas, readings will be taken in the center of the street or at intersections. Monted monitors will determine the shielding correlation factors and include these data in the first survey report. Readings will be recorded on DA Form 1971-R.

/s/

/t/ KARL THURSTON
Captain, TC
Commanding



APPENDIX G

USE OF NON-AIR-DEFENSE WEAPONS AGAINST HOSTILE AIRCRAFT

G-1. Concept

a. The substantial low altitude air threat faced by units in the combat theater may be partially countered by aggressive use of the large volume of fire which non-air-defense weapons (small arms and automatic weapons) can place against this threat.

b. Exercise of the individual and collective right of self-defense against hostile aircraft must be emphasized.

c. Indiscriminate use of non-air-defense weapons must be prevented. Engagement of hostile aircraft in immediate self-defense will be most frequent, and training emphasis should reflect this.

G-2. Rules of Engagement

In the absence of orders to the contrary, operators of individual weapons will engage attacking aircraft. Engagement of all other hostile aircraft will be on orders (based on standing operating procedures) issued through the unit chain of command and will be supervised by unit leaders. Nothing in this rule is to be taken as requiring actions prejudicial to accomplishment of the primary mission of the unit.

G-3. Techniques

a. *Engagement of Low Speed Aircraft.* In accordance with the rules of engagement, engage low speed enemy aircraft with aimed fire, employing the maximum weapon rate of fire. Aerial gunnery techniques generally applicable to all small arms and automatic weapons are presented in FM 23-65.

b. *Engagement of High Speed Aircraft.* In accordance with the rules of engagement, engage high speed enemy aircraft with maximum fire aimed well in front of the aircraft and above its flight path in order to force it to fly through a pattern of fire.

c. *Use of Tracer Ammunition.* Automatic weapons should use the highest practical proportion of tracer ammunition to enhance the deterrent or disruptive effect.

d. *Massed Fire.* Units should employ a massed fire technique when using small arms and auto-

matic weapons in an air defense role; that is, unit leaders should direct fires so as to mass the available fires against a selected target. Engagement of aerial targets will be as specified in TC 23-15.

G-4. Standing Operating Procedures

Unit standing operating procedures (SOP's) should cover, but not be limited to, the following items relevant to engagement of aircraft with non-air-defense weapons.

a. *Applicability.* Operators of designated weapons.

b. *Relation to Primary Mission.* Primary mission is never prejudiced

c. *Relation to Passive Air Defense.* The necessity for aggressively engaging hostile aircraft is balanced with the requirement to place in proper perspective the tactic of withholding fire to preclude disclosure of position.

d. *Authority to Engage.* Authority to engage attacking aircraft delegated to individual weapons operators, except when explicitly denied. Authority to engage all other hostile aircraft on orders through unit chain of command, subject to local and theater SOP.

e. *Rules of Engagement.* Normally self-defense only against all attacking aircraft or as ordered.

f. *Rules for Withholding Fire.* When ordered. When not positive that aircraft are actually attacking or otherwise hostile. When friendly aircraft or troops are endangered.

g. *Position Selection.* Applicable only to weapons specifically assigned an air defense role; for example, designated single-barrel .50-caliber machine-guns.

h. *Firing Techniques.* Lead and superelevation. Massed fire. Maximum rate of fire. Maximum use of tracer ammunition.

i. *Unit Training Requirements.* Motivation and discipline. Gunnery. Aircraft recognition. Guidance on visual aircraft recognition is contained in FM 44-30.



APPENDIX H

STRUCTURE FOR AREA DAMAGE CONTROL TEAMS

Section I. STRUCTURE FOR AREA DAMAGE CONTROL

LIGHT RESCUE TEAM (SQUAD OR PLATOON)

H-1. Capabilities

- a. Moves rapidly to scene of area damage control (ADC) event.
- b. Provides limited first aid to injured personnel.
- c. Extracts trapped and injured personnel from wreckage and debris.
- d. Assists in firefighting operations when required.
- e. Assists chemical-biological-radiological (CBR) decontamination teams.

H-2. Personnel

Type A Squad

<i>Duty position</i>	<i>Rank</i>	<i>Number</i>
Squad leader -----	E5/E6 -----	1
Rescue workers -----	E3 -----	6
Rescue workers (first aid) -----	E3 -----	2
Truck driver -----	E3 -----	1
Wrecker operator/driver -----	E4/E3 -----	1

H-3. Equipment

<i>Item</i>	<i>Quantity</i>
Truck, dump or cargo, 2½-ton, w/winch or 5-ton w-winch -----	1
Trailer, 1½-ton, two-wheel -----	1
Wrecker, 5-ton -----	1
Shovel -----	6
Mattock, pick -----	2
Hammer, sledge, 8-pound -----	1
Cutter, bolt -----	1
Ax, single-edge -----	2
Bar, pry -----	1
Rope, ½-inch -----	150 feet
Rope, 1-inch -----	150 feet
Carpenter kit, common -----	1
Bucket, 2½-gallon -----	2
Medical supplies -----	As required
Goggles, M1944 -----	10 pairs
Hacksaw, w/blades -----	1
Jack, hydraulic, 5-ton capability (minimum) -----	1
Protective clothing (if required) -----	1 set per man
Radio set, AN/PRC-25, or equivalent (if available) -----	1
(Forklift from TOE 55-118 or other unit, if available)	

H-4. Remarks

- a. Normal squad or section is used as a basis for this organization.
- b. It may be expanded to a type B (platoon size) unit by using the basic platoon structure of the unit or by combining three or four type A teams.

Section II. STRUCTURE FOR AREA DAMAGE CONTROL**LABOR TEAM (SQUAD OR PLATOON)****H-5. Capabilities**

- a. Moves rapidly to the scene of area damage control (ADC) event.
- b. Assists in the rescue of trapped and injured personnel.
- c. Provides limited first aid to injured personnel.
- d. Provides hand labor for augmenting firefighting teams, light and heavy rescue teams, explosive ordnance disposal detachments, and chemical-biological-radiological (CBR) teams.
- e. Provides other hand labor as required.

H-6. Personnel

Type A squad:

<i>Duty position</i>	<i>Rank</i>	<i>Number</i>
Squad leader	E5/E6	1
Assistant squad leader	E5/E4	1
Light vehicle driver	E3	1
Workers	E3	7

H-7. Equipment

<i>Item</i>	<i>Quantity</i>
Truck, dump or cargo, 2½-ton or 5-ton; trailer, 1½-ton two-wheel	1
(Organic squad vehicles where available)	1
Shovel, hand	8
Mattock, pick	2
Ax, chopping, single-bit	2
Bucket, 5-gallon	2
Rope, 1-inch	300 feet
Rope, ½-inch	150 feet
Carpenter kit, common	1
Medical supplies	As required
Goggles, M1944	10 pairs
Hacksaw, w/blades	1
Cutter, bolt	1
Bar, pry	1
Jack, hydraulic, 5-ton capability (minimum)	1

H-8. Remarks

- a. Normal squad or section is used as a basis for this organization.
- b. It may be expanded to a type B (platoon size) unit by using the basic platoon structure of the unit or by combining three or four type A teams.

APPENDIX I

STANAG 2113, DESTRUCTION OF MILITARY TECHNICAL EQUIPMENT

DETAILS OF AGREEMENT (DofA)

DESTRUCTION OF MILITARY TECHNICAL EQUIPMENT

Annex: A (DofA). Priorities for Destruction of Parts of Military Technical Equipment.

AGREEMENT

1. The NATO Army Forces agree:

- a. That it is essential to destroy to the maximum degree possible military technical equipment, abandoned in wartime operations, to prevent its eventual repair and use by the enemy.
- b. To follow the principles and priorities, set forth in this Agreement, in the destruction of their own equipment, when required.

PRINCIPLES AND PRIORITIES

2. Detailed Methods. Detailed methods of destroying individual items of equipment are to be included in the applicable technical publications, user handbooks and drill manuals.
3. Means of Destruction. Nations are to provide for the means of destruction for their own equipment.
4. Degree of Damage.
 - a. General. Methods of destruction should achieve such damage to equipment and essential spare parts that it will not be possible to restore the equipment to a usable condition in the combat zone either by repair or cannibalization.
 - b. Classified Equipment. Classified equipment must be destroyed in such degree as to prevent duplication by, or revealing means of operation or function, whenever possible, to the enemy.
 - c. Associated Classified Documents. Any classified documents, notes, instructions, or other written material pertaining to function, operation, maintenance, or employment, including drawings or part lists, must be destroyed in a manner to render them useless to the enemy.
5. Priorities for Destruction.
 - a. Priority must always be given to the destruction of classified equipment and associated documents.
 - b. When lack of time and/or stores prevents complete destruction of equipment, priority is to be given to the destruction of essential parts, and the same parts are to be destroyed on all like equipment.
 - c. A guide to priorities for destruction of parts for various groups of equipment is contained in Annex A (DofA) to this STANAG.
6. Equipment Installed in Vehicles. Equipment installed in vehicles should be destroyed in accordance with the priorities for the equipment itself, taking into account the relative importance of the installed equipment and the vehicle itself.
7. Spare Parts. The same priority, for destruction of component parts of a major item necessary to render that item inoperable, must be given to the destruction of similar components in spare parts storage areas.
8. Cryptographic Equipment and Material. The detailed destruction procedure to be followed in order to insure the rapid and effective destruction of all types of cryptographic equipment and material is to be specified in instructions issued by the appropriate communication security authority.

9. Authorization. The authority for ordering the destruction of equipment is to be vested in the divisional and higher commanders, who may delegate authority to subordinate commanders when the situation requires.
10. Reporting. The reporting of the destruction of equipment is to be done through command channels.

IMPLEMENTATION OF THE AGREEMENT

11. This STANAG will be considered to have been implemented when the priorities indicated therein have been incorporated in national documents detailing the method required for destroying the equipment concerned.

ANNEX A (DofA) TO
STANAG 2113PRIORITIES FOR DESTRUCTION OF PARTS OF MILITARY
TECHNICAL EQUIPMENT

EQUIPMENT	PRIORITY	PARTS
1. VEHICLES (INCLUDING TANKS AND ENGINEER EQUIPMENT)	1	Carburetor/fuel pump/injector/distributor.
	2	Engine block and cooling system.
	3	Tires/tracks and suspensions.
	4	Mechanical or hydraulic systems (where applicable).
	5	Differentials.
	6	Frame.
2. GUNS -----	1	Breech, breech mechanism, and spares.
	2	Recoil mechanism.
	3	Tube.
	4	Sighting and fire control equipment (Priority 1 for Anti-aircraft guns).
	5	Carriage and tires.
3. SMALL ARMS -----	1	Breech mechanism.
	2	Barrel.
	3	Sighting equipment (including Infra-Red).
	4	Mounts.
4. OPTICAL EQUIPMENT -----	1	Optical parts.
	2	Mechanical components.
5. RADIO -----	1	Transmitter (oscillators and frequency generators).
	2	Receiver.
	3	Remote control units or switchboards (exchanges) and operating terminals.
	4	Power supply and/or generator set.
	5	Antennae.
	6	Tuning heads.
6. RADAR AND OTHER ELECTRONIC EQUIPMENT	1	Frequency determining components, records, operating instructions, which are subject to security regulations, and identification material (Identification Friend or Foe (IFF)).
	2	Antennae and associated components such as radiators, reflectors and optics.
	3	Transmission lines and wave guides.
	4	Transmitter high voltage components.
	5	Control consoles, displays, plotting boards.
	6	Cable systems.
	7	Automatic devices.
	8	Other control panels and generators.
	9	Carriage and tires.

EQUIPMENT	PRIORITY	PARTS
7. GUIDED MISSILE SYSTEMS -----	1	Battery control centers.
	2	Missile guidance equipment (including homing systems).
	3	Launchers including control circuits.
	4	Missiles.
	5	Measuring and test equipment.
	6	Generators and cable systems.
8. AIRCRAFT AND SURVEILLANCE DRONES	1	Identification (IFF) equipment, other classified electronic equipment, publications and documents pertaining thereto, and other materiel as defined by the national government concerned.
	2	Installed armament (Use sub-priorities for group 2, Guns, or group 3, Small Arms, as appropriate).
	3	Engine Assembly (Priorities for destruction of magnetos, carburetors, compressors, turbines and other engine subassemblies to be determined by national governments, depending on type of aircraft involved and time available for destruction).
	4	Airframe / control surfaces / undercarriage (Priorities for destruction of propellers, hub-rotor blades, gear boxes, drive shafts, transmissions, and other subassemblies (not already destroyed in priority 3) to be determined by national governments, depending on type of aircraft involved and time available for destruction).
	5	Instruments, radios, and electronic equipment (not included in priority 1).
	6	Electrical, fuel, and hydraulic systems.
9. ROCKETS -----	1	Launcher.
	2	Rocket.
	3	Sights and fire control equipment.

APPENDIX J

FORMAT FOR REQUEST OF ARMY AIR AMBULANCE SUPPORT

All requests for Army air ambulance support should include the following in the sequence listed, but need not be limited to those elements shown.

a. Location. If grid coordinates are used, they should contain six digits and be preceded by the 100,000 meter grid designator.

b. Radio Frequency and Call Sign. The radio frequency and call sign should be that of the radio at the patient's location and not a relay frequency.

Note. The location, call sign, and radio frequency should always be transmitted first. This information enables the Army air ambulance to begin the mission and precludes unnecessary delay should the other information not be immediately available, both in helicopter reaction time and in cases of communication breakdown.

c. Patient Category of Precedence. This is the movement (pickup) precedence as determined by the senior aid man or medical service officer present for each patient in accordance with major command policy and regulation.

(1) *Urgent.* Emergency cases which must be evacuated immediately to save life or limb. This precedence will be used when it is anticipated that the patient's condition is such that evacuation is required within 2 hours. Psychiatric cases are not considered in this category.

(2) *Priority.* Patients requiring prompt medical care not locally available. This precedence will be used when it is anticipated that the patient must be evacuated within 4 hours or his medical condition

will deteriorate to the degree that he will become an urgent case. Psychiatric patients are not considered in this category.

(3) *Routine.* Patients requiring evacuation but whose condition is not expected to deteriorate significantly during the first several hours or longer. Psychiatric cases are considered in this category.

d. Number and Type of Patients. For example, litter or ambulatory.

e. Security of Pickup Site. Significant information on enemy location and/or weaponry, if available, should be noted here.

f. Type of Injury, Wound, or Illness. For example, penetrating gunshot wound of abdomen, first and second degree burns over 30 percent of body, sucking chest wound—left side, traumatic amputation of left leg, etc.

g. Site Marking. This is the method of marking site with such as smoke, panels, flares, flashlight, or other means as directed by the pilot. An optimum site is 50 meters wide, 150 meters long, with 15° angle/slope.

h. Special Equipment. For example, hoist or emergency medical supplies required such as whole blood, plasma, respirator, penetrator, or rigid litter basket.

i. Weather at Pickup Site. Cloudy, windy, rainy, or sunny and clear, etc.

j. Patient Nationality. Self-explanatory; for example, US military, civilian, third country national.



APPENDIX K

SAMPLE PRESAILING BRIEFING CHECKLIST

	(Date/Time)	
	Place	
	YES	NO
Section I. MISSION		
1. Have estimated times of arrival (ETA's) for destination and intermediate stops been established and forwarded to all concerned? -----	_____	_____
2. Have all aspects of the mission, including any return trip commitments, been established and necessary coordination accomplished? -----	_____	_____
3. Has coordination required by current directives been established and verified? -----	_____	_____
4. Was a preoperation notification provided? -----	_____	_____
5. Has cargo/troop loading been coordinated and properly documented? -----	_____	_____
6. Has all available tactical information been presented to the watercraft crew? -----	_____	_____
7. If more watercraft are involved in the operation, enter convoy commander's name and unit -----	_____	_____
8. Were any special instructions given? (Summarize and enter on the reverse of checklist) -----	_____	_____
9. Is a copy of the unit watercraft operations standing operating procedure aboard? -----	_____	_____
Section II. NAVIGATION		
1. Is a river pilot required? -----	_____	_____
2. Has a river pilot been assigned? (Enter name and unit) -----	_____	_____
3. Is a straight edge and divided available? -----	_____	_____
4. Does the vessel master have—		
a. Pilot guide -----	_____	_____
b. 1:50,000 map sheets of the operational area -----	_____	_____
c. 1:250,000 map sheets of the operational area -----	_____	_____
5. Are above required map sheets annotated with the required restriction markings? -----	_____	_____
6. Are compasses aboard watercraft operational? -----	_____	_____
a. Gyrocompass? -----	_____	_____
b. Magnetic compass? -----	_____	_____

	YES	NO
7. Have the limitations of the magnetic compass regarding deviation been explained and understood? -----	_____	_____
8. Have the requirements for passing reports and radio reports to harbor master been explained? -----	_____	_____

Section III. COMMUNICATIONS

1. Does the vessel master have the current communications-electronics operation instructions (CEOI) or necessary extracts? -----	_____	_____
2. Is the Operator's Number Sheet (DA Form 11-53) aboard and properly maintained? -----	_____	_____
3. Have procedures for the destruction of classified documents (for example, CEOI) been explained? -----	_____	_____
4. Are radios aboard operational? -----	_____	_____
a. AM radio? -----	_____	_____
b. FM radio? -----	_____	_____
5. Has the requirement for a 24-hour radio watch been emphasized? -----	_____	_____
6. Is a qualified radio operator assigned or available? -----	_____	_____
7. Is radio maintenance being performed by the radio operator as required? -----	_____	_____
8. Are vessel personnel familiar with visual signaling procedures? -----	_____	_____

Section IV. MAINTENANCE

1. Do watercraft have an ample supply of fuel, water, and rations? -----	_____	_____
2. Are there any significant prescribed load list (PLL) shortages? -----	_____	_____
3. Are all required Army maintenance management system logbooks aboard and properly maintained? -----	_____	_____
4. Are required fire extinguishers, fire pumps, and hoses in operational readiness? -----	_____	_____
5. Have en route repair facilities been designated and explained? -----	_____	_____

Section V. DEFENSE, WEAPONS, AND FIRE SUPPORT

1. Has the vessel master provided for a plan of action in event of hostile attack? -----	_____	_____
2. Has a general quarters drill been conducted in the past 30 days? -----	_____	_____
3. Are minimum watch numbers established for underway and in-port operations? -----	_____	_____
4. Have crewmembers been assigned positions on crew-served weapons? -----	_____	_____
5. Are requirements to test fire weapons known? -----	_____	_____
6. Are the procedures to obtain fire support understood? -----	_____	_____
7. Are the procedures to obtain medical evacuation understood? -----	_____	_____

	YES	NO
8. Has relocation of any friendly elements been detained? _____	_____	_____
9. Has the current available enemy situation been presented? _____	_____	_____
10. Have the following items been checked and found to be aboard and in order? _____	_____	_____
a. Individual weapons? _____	_____	_____
b. Crew-served weapons? _____	_____	_____
c. Life jackets? _____	_____	_____
d. Basic load of ammunition? _____	_____	_____
e. Helmet, steel and armor, body, fragmentation protection? _____	_____	_____

VESSEL MASTER BRIEFED
(Signature and vessel number)

BRIEFING OFFICER
(Signature and unit)



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By Order of the Secretary of the Army:

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The Adjutant General

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To be distributed in accordance with DA Form 12-11 requirements for Army Water Transport and Terminal Units.

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